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ABSTRACT

This eight-part sourcebook provides background information, data, and references relating to child welfare issues throughout the world. The book is organized around a set of goals for children in the 1990s. An introductory section provides an overview of these goals and strategies for achieving them, and discusses infant and child mortality, population growth, and strategies for helping children survive. Goals that relate to maternal and child health, discussed in part 2, concern primary health care, maternal mortality, immunization, diarrheal diseases, respiratory infections, the spacing of childbirths, and AIDS. Nutritional goals, the subject of part 3, involve the reduction of malnutrition, low birth weight, and iron deficiency anemia; the elimination of iodine and vitamin A deficiencies; and an increase in breastfeeding. Issues relating to water purity and sanitation, especially Guinea worm disease, are considered in part 4. A discussion of basic education in part 5 highlights goals for child development of young children, primary education, adult literacy, and informal education. Special problems considered in parts 6 and 7, include those relating to children in areas of armed conflict, working children, street children, female children, and urban children. The final section estimates the costs of achieving the goals for children by the year 2000; proposes debt relief for developing countries; and suggests peace dividend benefits. (BC)

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Children and Development in the 1990s
a UNICEF sourcebook

on the occasion of

the World Summit for Children

29-30 September 1990
UNITED NATIONS, NEW YORK

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Acronyms

ACC/SCN	Administrative Committee on Co-ordination (of the United Nations) – Subcommittee on Nutrition
AIDS	Acquired Immunodeficiency Syndrome
ARI	Acute Respiratory Infections
BCG	Anti-tuberculosis Vaccine
CSDR	Child Survival and Development Revolution
DAC	Development Assistance Committee (of OECD)
DPT	Combined Diphtheria/Pertussis/Tetanus Vaccine
EPI	Expanded Programme on Immunization
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GNP	Gross National Product
HIV	Human Immunodeficiency Virus
IDD	Iodine Deficiency Disorders
ILO	International Labour Organisation
IMF	International Monetary Fund
IMR	Infant Mortality Rate
MMR	Maternal Mortality Rate
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PHC	Primary Health Care
TBA	Traditional Birth Attendant
TT2	2 Doses of Tetanus Toxoid Vaccine
U5MR	Under-five Mortality Rate
UCI	Universal Child Immunization
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

CHILDREN IN THE TOTAL POPULATION, 1988 (in millions)

	Total	Under 15	Under 5
WORLD	**5093.1**	**1764.3**	**606.2**
LATIN AMERICA & CARIBBEAN	**423.7**	**164.7**	**56.1**
Argentina	31.5	10.1	3.2
Bolivia	6.9	3.2	1.2
Brazil	144.4	54.6	18.7
Chile	12.7	4.2	1.4
Colombia	30.6	11.8	4.1
Costa Rica	2.9	1.1	0.4
Cuba	10.2	2.5	0.8
Dominican Rep.	6.9	2.8	1.0
Ecuador	10.2	4.4	1.6
El Salvador	5.0	2.4	0.8
Guatemala	8.7	4.2	1.5
Guyana	1.0	0.4	0.1
Haiti	6.3	2.6	0.9
Honduras	4.8	2.3	0.8
Jamaica	2.4	0.9	0.3
Mexico	84.9	34.9	11.4
Nicaragua	3.6	1.8	0.7
Panama	2.3	0.9	0.3
Paraguay	4.0	1.7	0.6
Peru	21.3	8.9	3.2
Trinidad & Tobago	1.2	0.4	0.1
Uruguay	3.1	0.9	0.3
Venezuela	18.8	7.7	2.7
MIDDLE EAST & NORTH AFRICA	**281.5**	**123.9**	**45.7**
Algeria	23.8	11.3	4.1
Egypt	51.5	22.1	8.1
Iran, Islamic Rep.	53.1	24.2	9.5
Iraq	17.7	8.7	3.2
Jordan	3.9	2.0	0.8
Kuwait	1.9	0.8	0.3
Lebanon	2.8	1.1	0.4
Libyan Arab Jamahiriya	4.2	2.0	0.8
Morocco	23.9	10.4	3.7
Oman	1.4	0.7	0.3
Saudi Arabia	13.1	6.2	2.4
Syria	11.6	5.9	2.2
Tunisia	7.8	3.2	1.1
Turkey	53.5	19.9	6.8
United Arab Emirates	1.5	0.5	0.2
Yemen	7.5	3.8	1.4
Yemen, Dem.	2.3	1.1	0.4
AFRICA SOUTH OF THE SAHARA	**493.3**	**237.9**	**92.3**
Angola	9.5	4.5	1.7
Benin	4.4	2.1	0.9
Botswana	1.2	0.6	0.2
Burkina Faso	8.5	3.9	1.5
Burundi	5.1	2.4	0.7
Cameroon	10.7	4.9	1.8
Central. African Rep.	2.8	1.3	0.5
Chad	5.4	2.4	0.9
Congo	1.9	0.9	0.3
Côte d'Ivoire	11.6	6.0	2.4
Ethiopia	44.7	21.5	7.6
Gabon	1.1	0.4	0.1
Ghana	14.1	6.7	2.6
Guinea	6.5	3.0	1.2
Kenya	23.1	12.5	5.1
Lesotho	1.7	0.8	0.3
Liberia	2.4	1.1	0.4
Madagascar	11.2	5.3	2.0
Malawi	7.9	3.8	1.5
Mali	8.8	4.3	1.7
Mauritania	1.9	0.9	0.3
Mauritius	1.1	0.3	0.1
Mozambique	14.8	6.8	2.6
Namibia	1.8	0.8	0.3
Niger	6.7	3.3	1.3

CHILDREN IN THE TOTAL POPULATION, 1988 (in millions)

	Total	Under 16	Under 5
AFRICA SOUTH OF THE SAHARA (continued)			
Nigeria	105.5	53.4	21.8
Rwanda	6.8	3.5	1.4
Senegal	7.0	3.2	1.3
Sierra Leone	3.9	1.8	0.7
Somalia	7.1	3.5	1.4
South Africa	33.7	13.3	4.7
Sudan	23.8	11.3	4.3
Tanzania	25.4	12.5	5.2
Togo	3.2	1.5	0.6
Uganda	17.2	8.7	3.4
Zaire	33.8	16.3	6.3
Zambia	7.9	4.0	1.6
Zimbabwe	9.1	4.4	1.6
ASIA	**2698.7**	**960.5**	**325.9**
Afghanistan	15.1	6.7	2.6
Bangladesh	109.6	51.6	18.5
Bhutan	1.5	0.6	0.2
China	1104.0	324.9	102.0
Hong Kong	5.7	1.4	0.4
India	818.8	319.3	112.4
Indonesia	175.0	67.9	21.4
Kampuchea	7.9	2.8	1.4
Korea, Dem.	21.9	8.7	3.0
Korea, Rep.	42.6	8.7	3.0
Laos	3.8	1.7	0.7
Malaysia	16.6	6.4	2.3
Mongolia	2.1	0.9	0.3
Myanmar	40.0	16.1	5.5
Nepal	18.2	8.1	3.0
Pakistan	114.9	54.3	22.3
Papua New Guinea	3.8	1.7	0.6
Philippines	59.5	25.4	9.0
Singapore	2.6	0.7	0.2
Sri Lanka	16.8	5.9	1.9
Thailand	54.1	19.7	6.0
Viet Nam	64.2	27.0	9.2
INDUSTRIAL COUNTRIES	**1195.9**	**277.3**	**88.2**
Albania	3.1	1.1	0.4
Australia	16.4	4.0	1.2
Austria	7.5	1.4	0.4
Belgium	9.9	2.0	0.6
Bulgaria	9.0	2.0	0.6
Canada	26.1	5.9	1.9
Czechoslovakia	15.6	4.0	1.1
Denmark	5.1	1.0	0.3
Finland	5.0	1.0	0.3
France	55.8	12.3	3.8
Germany, Dem.	16.6	3.5	1.1
Germany, Fed.	60.7	9.8	3.1
Greece	10.0	2.2	0.6
Hungary	10.6	2.3	0.6
Ireland	3.7	1.1	0.3
Israel	4.4	1.5	0.5
Italy	57.3	11.2	3.0
Japan	122.4	26.0	7.0
Netherlands	14.6	2.9	0.9
New Zealand	3.3	0.8	0.3
Norway	4.2	0.9	0.3
Poland	38.0	10.3	3.2
Portugal	10.2	2.4	0.7
Romania	23.0	5.9	1.7
Spain	39.1	9.0	2.5
Sweden	8.3	1.5	0.4
Switzerland	6.5	1.2	0.4
United Kingdom	56.8	11.5	3.7
USA	245.4	56.3	18.3
USSR	283.7	76.4	25.2
Yugoslavia	23.6	5.9	1.8

Source: The State of the World's Children 1990, Tables 1 and 5.
(For explanations and qualifications of specific figures, see notes there.)
Figures for country groupings are totals (exclusive of countries with population under one million).

PART ONE:

Overview

Introduction

This Sourcebook on Children and Development in the 1990s *has been compiled on the occasion of the World Summit for Children, but it is intended to be of use well beyond that momentous event. It is meant for all those who wish to extend their knowledge of any of the themes under discussion at, or around, the Summit, stating the issues and providing readers with the background information, explanations, definitions, data, and references they may require to obtain a deeper understanding of the subjects.*

The background material provided here will also assist in the initial implementation of the world's agenda for children in the 1990s to the extent that Summit participants include each theme treated here in that agenda. As none of these themes is static, this book is compiled in such a way that its individual sections can be updated from time to time with new data and new text, reflecting progress in achievement and understanding.

This book is organized around a set of goals for children in the 1990s. These goals are not intended to pre-empt the Summit's decisions. They are the goals that were approved by the UNICEF Executive Board in April 1990, and the majority of them are joint goals shared with one or more other world bodies, such as WHO, UNESCO, UNFPA, and the World Bank.

The agenda for children that these goals, taken together, constitute is very ambitious. Despite the obstacles, UNICEF views the agenda as feasible, provided the political will exists to implement it. UNICEF hopes the leaders of the world who are assembled for the Summit will take a similar view and support the agenda for children in the 1990s with the weight of their power and influence.

Goals, once properly adapted to country realities, can serve as powerful rallying points for national action and international solidarity. They can help shift the focus from excessive preoccupation with constraints to exploration of opportunities. By gaining popular understanding and credibility, easily understood human goals may contribute more to real development than all the voluminous development plans of governments and international agencies. Specific, doable goals are more amenable to advocacy at senior levels of government and among other power elites than are generalized *development issues. Human goals with the power to inspire can be effective instruments for mobilizing support from groups that would otherwise not be excited about general development programmes. The pursuit of common goals, albeit with different means and modalities, can provide a useful focus for inter-agency collaboration. Finally, goals can be powerful instruments for tightening management and accountability.*

Goals are attainable only in the concrete circumstances of particular countries, communities, and families. Global goals, however, provide a yardstick for aspirations that are shared among nations, and combinations of global goals serve to underline the interrelatedness and mutual reinforcement that the common pursuit of a coherent set of goals by many nations can provide.

Many problems transcend national boundaries. For example, efforts to eradicate, or even contain, malaria in a single country can be frustrated by the failure to contain it in other contiguous countries. Many other problems of the 1990s, such as drug abuse, AIDS, global warming, and other environmental issues will not be solved through strategies confined within one country's boundaries. National goals for dealing with these problems will require regional and global strategies, leading inevitably to global or at least regional goals.

Often, cumulative country experiences will lead to global goals. When a major country or group of countries succeeds in setting and achieving certain goals, other countries are inspired to set similar goals, often leading to adoption of regional and eventually global goals.

Also, global goals can spur certain national goals, the success of which depends on the achievement of the global goals. For instance, the eradication of smallpox could not have been achieved in the relatively short time span of the 1960s and 1970s if it had been left entirely to the discretion of national authorities without a global push. Similarly, such goals as the eradication of polio, elimination of dracunculiasis, and control of iodine deficiency disorders in the 1990s will require major world-wide efforts.

For all of these reasons, this book is organized mainly around goals, though it also discusses certain essential concerns like "the girl child" and "the urban child" that cut across sectors and are less susceptible to formulation in terms of single objectives. There is also a section on economic support and sustainability. It deals with some of the economic conditions necessary to make the social goals for children feasible.

UNICEF hopes this compendium will serve all who are engaged in making the World Summit for Children a success. May it be of even greater value to those who will translate the Summit Declarations into concrete follow-up actions for the benefit of the world's children.

The principle of first call for children and the Convention on the Rights of the Child

In brief

The principle of first call for children complements the historic Convention on the Rights of the Child that seeks to ensure that children under 18 years of age develop to their full potential free from hunger, want, neglect, exploitation, and other abuses. This chapter examines some of the specific rights that the Convention sets forth and some of the responsibilities nations and families have to ensure those rights. By giving children and their needs the highest possible priority and by translating the rights enshrined in the Convention into laws, plans of action, and allocation of resources, the achievement of the decade goals for children will receive an enormous impetus.

In both industrialized and developing countries, there is a growing recognition that the physical, mental, and emotional needs of the young are legitimate matters of concern for a nation's political leaders. President Bush of the United States, for example, has expressed the belief that "our national character can be measured by how we care for our children." And in making the same point about the world's responsibility for its children, President Gorbachev of the Soviet Union has stated that at the close of the twentieth century "mankind can no longer put up with the fact that millions of children die every year."

Underlying the many decisions and actions that must be taken if the needs of children are to be dealt with seriously is the principle of *first call for children.* This principle is that the essential needs of children should be given high priority in the allocation of resources in bad times as well as in good, at the national and international levels, as well as at the family level.

At the family level, the principle of first call gives the growth of a child's body and mind the priority attention it deserves, in terms of food and nutrition, education, child care, shelter, and other needs. At the national and international levels, the principle awards high priority to protection of children in times of financial austerity, natural calamities, and wars and conflicts, as well as in times of progress and prosperity.

Acceptance of this principle would add an important dimension to national development planning and international co-operation, making the well-being of children an explicit criterion in assessing and evaluating development programmes. For example, programmes for structural adjustment and debt relief would be assessed not only in terms of their macro-economic merits, but also in terms of their impact on children and human development.

This principle of first call is especially pertinent to the present moment in history when the Cold War is ending and debate over the reallocation of resources previously devoted to armaments is engaged. If children were considered first, the discussion would automatically turn to considerations of the environment, sustainable human development, resolution of the debt crisis, education, health, water supply, and nutrition – in short, all that society should be thinking of as it adjusts to an era of peace.

The Convention on the Rights of the Child

The principle of first call for children is embodied in the Convention on the Rights of the Child, a document covering civil, economic, social, cultural, and political rights for children. The United Nations General Assembly adopted the Convention by consensus on November 20, 1989, and its ratification by Member States is well underway.

The Convention has been variously described as a 'Magna Carta' or 'Bill of Rights' for children. It has 54 articles detailing the individual rights of any person under 18 years of age to develop to his or her full potential, free from hunger, want, neglect, exploitation, and other abuses.

By adopting the Convention, the General Assembly, after 10 years of often intricate negotiation, recognized that children have needs and human rights that extend far beyond basic concepts of protection.

Ratification and implementation

When the Convention was opened for signing on 26 January 1990, 61 countries signed it—an unprecedented first day response and a big first step by each country towards ratification. At the time this report was compiled, 92 countries had signed the Convention and twenty two countries had ratified it. By the time this report is published the Convention will have entered into force.

The Convention now enters into force as international law for those countries which have ratified it, the States Parties to the Convention.

To be a truly global treaty, the Convention needs ratification by countries from all regions. These countries, by ratifying the Convention, declare themselves willing to be fully bound by the Convention's provisions and answerable to the international community if they fail to comply. A Committee of 10 experts will monitor compliance with the Convention.

These compliance officers will be elected at a meeting of the States Parties to the Convention, six months after the Convention enters into force.

Standards set by the Convention

The Convention on the Rights of the Child addresses the neglect and abuse children suffer in every country, to varying degrees, every day. It recognizes a child's special vulnerability and treats a child's civil, political, economic, social, and cultural rights as elements of an interdependent or mutually reinforcing package. The Convention breaks new ground with this holistic approach, acknowledging that although a child may be adequately nourished (a social right), the child's right to develop fully is not adequately protected unless the child is also educated (a social and cultural right), allowed to participate in culture and religion (a cultural right), and shielded from such things as arbitrary detention (a civil right) and exploitation at work (a social and economic right).

The Convention also recognizes a child as an individual with needs that evolve with age and maturity. Accordingly, it goes beyond existing treaties by seeking to balance the rights of the child with the rights and duties of parents and others responsible for a child's survival, development, and protection, by giving the child the right to participate in decisions affecting both the present and the future.

Survival, development, protection, and participation

Under the Convention, *survival rights* include such things as adequate living standards and access to health and medical services. *Development rights* include education; access to information, play and leisure; cultural activities; and the right to freedom of thought, conscience, and religion. *Protection* embraces all of the above, but also covers all forms of exploitation and cruelty, arbitrary separation from family, and abuses in the criminal justice system. *Participation rights* include the freedom to express opinions and to have influence in matters affecting one's own life, as well as the right to play an active role in society at large. The main underlying principle of the Convention is that the best interests of the child shall always be a major consideration. It states clearly that the child's opinion shall be given due regard.

Other pressing issues, some of which are specifically addressed for the first time in an international convention, include obligations to children in special circumstances, such as the needs of refugee children (article 22); protection from sexual and other forms of child exploitation (articles 34 and 36); drug abuse (article 33); children in trouble with the law (article 40), inter-country adoptions (article 35); children in armed conflicts (articles 38 and 39); the needs of disabled children (article 23), and the needs of children of minority and indigenous groups (article 30).

Under the Convention, children are entitled to the highest attainable health standards and access to facilities for the treatment of illness and rehabilitation. Where governments are economically incapable of providing such services, international co-operation to ensure this right is emphasized (article 24).

Parents have the primary responsibility for standards of living that guarantee their children's physical, mental, spiritual, moral, and social development, but States Parties to the Convention are expected to provide support programmes where necessary, particularly in the areas of nutrition, clothing, and housing (article 27).

Education is the subject of two major articles (27 and 28), which were reinforced by the World Conference on Education for All in Thailand (5-9 March 1990). Primary education should be compulsory, free to all, and directed toward the development of a child's personality, talents, and natural abilities, with due respect for cultural identity, language, and values. Stress is placed on equality of educational opportunity for girls and boys.

When a child is capable of forming his or her own views, those opinions are to be given due weight in accordance with the child's age and maturity, a provision with particular significance in judicial and administrative proceedings directly affecting the child (article 12).

States Parties to the Convention are expected to establish a minimum age for work, as well as regulations governing hours and conditions of employment (article 32). They are also obliged to take national, bilateral, and multilateral measures to protect children against all forms of sexual exploitation (article 34).

The universal approach

The Convention carefully allows for the different cultural, political, and economic realities of individual States. In doing so, it complements the Declaration on the Rights of the Child, which maintains that "mankind owes to the child the best it has to give." This approach gives the Convention latitude to encourage assistance to nations lacking the resources to adequately care for their children, while also addressing the serious child welfare problems often found in rich countries.

In the early drafting stages of the Convention, some questioned whether it was feasible to define universal rights for children, given the diversity among nations of socio-economic, religious, and cultural perceptions of childhood and the child's role in the family and society at large. But those who drafted the Convention take the view that although methods of upbringing, socialization, and opportunity vary greatly from one country to another, concern for the protection of a broad range of children's rights is shared by all peoples. Experience suggests that the reactions of all communities and nations are essentially the same when children are subjected to torture, separated from their families, deprived of food or proper medical care, or maimed in armed conflicts. The Convention, therefore, represents a consensus that, while the means of achieving child rights may differ and be given different priorities from one country or situation to another, there are universally accepted pre-conditions for any child's harmonious and full development.

Flexibility

The inherent strength of the new Convention is its flexibility to accommodate the many different approaches of nations in pursuit of a common goal. It has not evaded sensitive issues, but has found means to adjust to the different cultural, religious, and other values that address universal child needs in their own ways. This was a ground-breaking experience for international lawmakers, who developed the approach over a 10-year drafting period following the International Year of the Child in 1979. While setting an upper age limit for childhood at 18 years, the Convention allows for exceptions in countries where the age of majority is set lower. It does not specify how parents should bring up their children, but stipulates that children have the right to receive care and protection from their families and the state, and it also defines the areas in which that care and protection should be provided.

The principle of first call for children is that the essential needs of children should be given high priority in the allocation of resources in bad times as well as good, at the national and international levels, as well as at the family level.

In the sensitive cases of child adoption and alternative family care, a way was found to provide protection, while allowing all parties to accept the Convention as a whole. In some cases adoption has lent itself to cruel abuses, including child trafficking and slavery. Accordingly, under the Convention, states shall provide parentless children with suitable alternative care. The adoption process shall be carefully regulated, and international agreements shall be sought to provide safeguards and assure legal validity if and when adoptive parents intend to move a child from his or her country of birth.

A role for all in realizing the ideas of the Convention

Parliamentarians, educators, religious leaders, the media, and non-governmental groups have made efforts to ensure that the Convention gives the highest priority to the national planning and legislation that will strengthen the articles of the Convention with practical force. The Convention provides benchmarks for achievements and a universally acceptable basis for advocacy that will be pursued by international agencies and non-governmental organizations on behalf of children everywhere.

Nations that ratify the Convention will be obliged to see that the rights contained in it are widely known, and to report regularly on their efforts to honour them. They will report directly to the Committee on the Rights of the Child, and international organizations such as UNICEF, ILO, and UNESCO are likely to be present when the Committee considers each report. UNICEF, other UN bodies, and non-governmental specialist agencies have indicated their readiness to provide technical advice and other assistance on request.

Responsibility for the rights of children will ultimately hinge on the translation of agreed principles into national laws, plans of action, and allocation of resources. What the Convention has done is to stake a claim for children at the top of national and international agendas, while placing the responsibility for meeting the needs of children in the hands of the family in the first instance, followed by governments and society at large.

Further reading

Convention on the Rights of the Child. Resolution adopted by the United Nations General Assembly at its forty-forth session. A/RES/44/25. 5 December 1989.

Human Rights Quarterly, Volume 12, Number 1, February 1990, pp. 94-175 (contains nine articles that form a Symposium on the Convention).

Goals for children and development in the 1990s

In brief

This chapter sets out the decade goals for children that UNICEF and many others consider achievable by the year 2000, if world leaders put the weight of their prestige behind them and commit themselves to achieving them. The adaptation of these goals to different country situations is also discussed.

The Convention on the Rights of the Child sets an agenda for children, the full implementation of which will require decades of work. Within the comprehensive framework provided by the Convention, specific goals in areas such as health, nutrition, and education, have been formulated by various global assemblies. The goals on which this compendium is based are those adopted by the UNICEF Executive Board in April 1990, but most of them were formulated jointly with other agencies during a two-year-long process that began in March of 1988.

Many of these goals were initially formulated as part of "Protecting the world's children: an agenda for the 1990s," which was introduced as the "Talloires Declaration" in March 1988 by the Task Force for Child Survival. The Task Force, composed of the World Bank, UNDP, WHO, UNICEF, and the Rockefeller Foundation, periodically brings together health ministers and senior officials from developing countries and leaders of major bilateral and other multilateral aid organizations. The Talloires Declaration is the basis for the initial list of WHO/UNICEF common goals for the health development of women and children by the year 2000 that was endorsed in 1989 by the UNICEF/WHO Joint Committee on Health Policy and by the Executive Boards of both UNICEF and WHO.

The goals approved by the UNICEF Executive Board in 1990 draw upon the WHO/UNICEF common goals, including modification recommended at the March 1990 meeting of the Child Survival Task Force in the "Bangkok Affirmation," and also include goals outside the health sector, such as those dealing with child rights, protection of children in especially difficult circumstances and goals in the areas of education, literacy, and early child development, as endorsed by the World Conference on Education for All held in Jomtien, Thailand, in March 1990.

Since the needs of children cut across many sectors, the list of goals contained in UNICEF documents is broader than the specific sectoral goals of United Nations agencies such as WHO, UNESCO, and UNFPA. Footnotes to this list indicate which of the goals are held in common by the relevant United Nations organizations.

Goals for children and development in the 1990s

A. Major goals for child survival, development and protection[1]

(1) Between 1990 and the year 2000, reduction of the infant mortality rate (IMR) and the under-five mortality rate (U5MR) in all countries by one third, or to 50 and 70 per 1,000 live births, respectively, whichever is less.[2]

(2) Between 1990 and the year 2000, reduction of the maternal mortality rate (MMR) by one half.[2]

(3) Between 1990 and the year 2000, reduction of severe and moderate malnutrition among children under five years of age by one half.[3]

(4) Universal access to safe drinking water and to sanitary means of excreta disposal.[3]

(5) By the year 2000, universal access to basic education and achievement of primary education by at least 80 per cent of primary school-age children.[4]

(6) Reduction of the adult illiteracy rate (the appropriate age-group to be determined in each country) to at least one half of its 1990 level, with an emphasis on female literacy.[4]

(7) Improved protection of children in especially difficult circumstances.

B. Supporting/sectoral goals

Women's health and education

(8) Special attention to the health and nutrition of female children and pregnant and lactating women.[3]

(9) Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late, or too many.[2]

(10) Access by all pregnant women to pre-natal care, trained attendants during childbirth, and referral facilities for high-risk pregnancies and obstetric emergencies.[2]

(11) Universal access to primary education, with a special emphasis on girls, and accelerated literacy programmes for women.[2]

Nutrition

(12) Reduction in severe and moderate malnutrition among children under five years of age by one half of 1990 levels.[3]

(13) Reduction of the rate of low birth weight (less than 2.5 kilograms) to less than 10 per cent.[3]

(14) Reduction of iron deficiency anaemia in women by one third of 1990 levels.[3]

(15) Virtual elimination of iodine deficiency disorders (IDD).[3]

(16) Virtual elimination of vitamin A deficiency and its consequences, including blindness.[3]

(17) Empowerment of all women exclusively to breastfeed their child for four to six months and to continue breastfeeding, with complementary food, well into the second year.[2]

(18) Growth promotion and its regular monitoring to be institutionalized in all countries by the end of the 1990s.

(19) Dissemination of knowledge and supporting services to increase food production to ensure household food security.

Child health

(20) Global eradication of poliomyelitis by the year 2000.[3]

(21) Elimination of neonatal tetanus by 1995.[3]

(22) Reduction by 95 per cent in measles deaths and reduction by 90 per cent of measles cases by 1995 compared with pre-immunization levels as a major step towards the global eradication of measles in the longer run.[3]

(23) Maintenance of a high level of immunization coverage (at least 90 per cent of children under one year of age) against diphtheria, pertussis, tetanus, measles, poliomyelitis, and tuberculosis and against tetanus for women of child-bearing age.

(24) Reduction by 50 per cent in the deaths caused by diarrhoea in children under the age of five years and 25 per cent reduction in the diarrhoea incidence rate.[3]

(25) Reduction by one third in the deaths caused by acute respiratory infections (ARI) in children under five years of age.[3]

Water and sanitation

(26) Universal access to safe drinking water.[3]

(27) Universal access to sanitary means of excreta disposal.[3]

(28) Elimination of Guinea worm disease (dracunculiasis) by the year 2000.[3]

Basic education

(29) Expansion of early childhood development activities, including

appropriate low-cost family and community-based interventions.[4]

(30) Universal access to basic education and achievement of primary education by at least 80 per cent of primary school-age children through formal schooling or non-formal education of comparable learning standard, with an emphasis on reducing the current disparities between boys and girls.[4]

(31) Reduction of the adult illiteracy rate (the appropriate age-group to be determined in each country) to at least one half of its 1990 level, with an emphasis on female literacy.[4]

(32) Increased acquisition by individuals and families of the knowledge, skills, and values required for better living made available through all educational channels, including the mass media, other forms of modern and traditional communication, and social action, with effectiveness measured in terms of behavioural change.[4]

Children in especially difficult circumstances

(33) Provide improved protection of children in especially difficult circumstances and tackle the root causes leading to such situations.

Adaption of goals to different country situations

The global goals mentioned above should be considered on a country-by-country basis and translated into national goals with their own target dates, standards, and additional country-specific objectives. Such country-specific adaptation of global goals is crucial, not only to ensure technical and logistical feasibility, but also to secure the financial backing and political support necessary for the realization of these goals. Consultations with governments, relevant NGOs, the media, and other social organizations during formulation of country goals will greatly enhance the chances of mobilizing these groups for the implementation of the goals.

Standards for adapting these goals may vary from country to country. For instance, in the higher-income developing countries, universal access to safe drinking water might mean having water indoors or in the yard of every house; in lower-middle-income countries, it might mean having water available within no more than 500 metres from most households; and in some Least Developed Countries, it might mean having water available within one kilometre. Similarly, targets for adult literacy might be set in terms of 15 to 55 years in higher-income countries, whereas one might restrict the age group to 15 to 45 years in the case of lower-income countries.

It is recognized that the Least Developed Countries will not be able to attain most of the goals for the 1990s without extroadinary effort, internal political commitment, and external support. For some of the high-income developing countries and industrialized countries, on the other hand, many of the goals might not be challenging enough. Therefore, some adaptation of goals to suit the varying typology of countries is essential.

Because of the variation of standards for the same goals, considerable variation in strategies will be needed to reach these goals. Strategies, however, constitute an entire theme in itself, one which will be discussed in the following chapter.

Notes

1/ Most of the major goals for the reduction of IMR/U5MR, access to water and sanitation, education and literacy, etc., were included in the goals for the Third United Nations Development Decade and are being updated for inclusion in the international development strategy for the Fourth United Nations Development Decade.

2/ Joint UNICEF/WHO/UNFPA goal.

3/ Joint UNICEF/WHO goal. This goal has also been endorsed by the International Task Force for Child Survival composed of WHO, UNICEF, UNDP, the World Bank, and the Rockefeller Foundation.

4/ Joint UNICEF/UNESCO goal. This goal was endorsed by the World Conference on Education for All and represents a common goal of the four sponsoring agencies of the conference (UNESCO, UNDP, the World Bank, and UNICEF) and the many co-sponsoring agencies.

Strategies for achieving the goals

In brief

Although each country's circumstances will determine the way the goals for children are set and reached, a number of broad concerns will shape specific strategies. This chapter sets out these broad concerns, including the need for area-based, multisectoral services to be provided to the poorest and most vulnerable; the need to reduce disparities between and within sections of populations; and the need for women to be empowered through education and training. Major achievements in child survival and development in the 1980s–such as accelerated immunization coverage and improved literacy programmes–resulted from unprecedented social mobilization, involving a wide spectrum of social forces, backed by the vision and will of political leaders. These impressive successes against extraordinary odds show that the right combination of technical interventions and social mobilization, supported by political will, can improve the ratio of results to resources and achieve development with a human or a child's face.

The goals for the year 2000 enumerated in the previous chapter are admittedly very ambitious in the light of past experience and current trends. While they are considered technically feasible and financially affordable, to achieve them will require strategic actions that speed the pace of progress beyond historical trends.

A strategy is a coherent set of policies, programmes, and projects, which defines the path to be pursued towards the achievement of a set of goals. A strategy provides the framework for plans and reconciles the trade-offs required when scarce resources are devoted to the pursuit of multiple goals. Such a set of policies, programmes, and projects must be devised and implemented at the particular development level of each country. And in most countries the national strategy must be complemented by regional and local strategies as well.

The appropriate means for reaching the goals depends on the particular circumstances of each country. For example, to reach the infant mortality and under-five mortality goals, it is important to identify disease patterns of the major fatal diseases in the region. These may be diarrhoeal diseases in one country, malaria in another, vaccine preventable diseases in some countries, acute respiratory infections (ARI) or the spreading scourge of AIDS in other countries, or perhaps a combination of all or some of these.

Similarly, to reach basic education for all, the emphasis would be on formal primary education in most countries, but in many countries non-formal education may also constitute a major element of the package, or there may be special emphasis on early child stimulation at the pre-primary level, which has been proven to enhance the quality and efficiency of primary education.

Strategies will vary from country to country and sector to sector. However, the following are likely to be the essential strategic elements common to most countries and sectors.

Going to scale

The experience of the 1980s has demonstrated that many programmes related to the human goals for the 1990s lend themselves to mass application at national levels. So, it is no longer as necessary as in earlier decades to devote an inordinate amount of time and energy to small scale pilot projects, some of which are difficult to replicate on a larger scale. The challenge of the 1990s is to disseminate what has already been learned from pilot projects on a scale that can lead to universal coverage of most of the basic services for human development.

There is always room for innovation and refinement of strategies already known to work. However, while work on such innovation and refinement deserves support and attention, priority should be given to large-scale implementation of services that have proven to work.

Reaching the unreached and hard to reach

As the coverage of services reaches the majority, it becomes increasingly difficult to reach the last 15 to 20 per cent of the population that is concentrated in remote, inaccessible areas or in overcrowded urban shanty towns. These people are often the poorest of the poor and the most vulnerable. The difficulty of reaching them and the sometimes relatively high cost of providing services to them has often deterred and discouraged development workers. Nevertheless, in any scheme of development that puts human well-being at the centre of development strategy, a high priority should be assigned to reaching the unreached and hard to reach .

Just as helping the least developed and landlocked countries should receive special attention from the international community, reaching the poorest communities should be a priority of national development. After all, the problems of malnutrition, ill health, child deaths, maternal mortality, illiteracy, and low productivity are concentrated among the poorest 25 per cent of the families. It is therefore not enough to state global goals only in terms of national averages. As part of reaching the national goals, some sub-national goals should be specified so as not to leave out any sizeable administrative unit or ethnic, racial, or gender group. The uplifting of such under-privileged sub-national target groups should command a significant share of the investment available for development. In fact, universalization is a way of assuring that the poorest are reached, provided that the target for defining universal coverage is set high enough.

Disparity reduction

Disparity reduction is a major strategic principle that is universally applicable and often more relevant and meaningful than reaching particular numerical targets. It identifies people who are falling below the mean and targets programmes to move these people into the mainstream. It helps monitor not only key indicators of progress, but also the gap between the haves and have-nots in the disaggregated population. Monitoring averages becomes less sensitive as service coverage expands. It is the reduction of disparities, rather than the absolute level of the indicator itself, that measures the effectiveness of development programmes in bringing about greater equity. It is, for instance, the analysis of disparities that has led countries in the South Asian Association for Regional Co-operation (SAARC) and the Middle East and North Africa (MENA) region to emphasize that UNICEF should champion affirmative action in favour of the girl child.

Advocacy and social mobilization

During the 1980s, none of the major achievements in child survival and development, such as the immense acceleration in immunization coverage, oral rehydration therapy (ORT), family planning services, or literacy programmes, could have been accomplished solely by the sectoral government departments concerned.

It has taken the mobilization of many organizations–many of them previously totally unconcerned with or uninvolved in child-related issues–to bring these developments to the doorstep of the masses. The active participation of political leaders at different levels, non-governmental organizations (NGOs), school systems, religious leaders, artists and intellectuals, labour unions and peasant cooperatives, women's and youth movements, and neighbourhood associations was mobilized using the communications channels offered by newspapers, radios, television, and personal contacts that made it possible to reach families that had never been reached by conventional government services. Such social mobilization on a massive scale is crucial not only for alternative delivery channels for essential services, but even more importantly for creating awareness of and the demand for such services.

Creation of popular awareness of, demand for, and participation in programmes of human development will create its own momentum for the rapid fulfillment of the human goals for the 1990s. In developing countries politicians will have to respond to an assertive constituency; scientists and technologists will be persuaded to orient their research to meeting human needs; and in the industrialized countries public support will be generated for development co-operation. Such social mobilization and creation of alliances and partnerships for children and human development are essential to reach the goals of child survival and development in the 1990s.

During the 1980s, there was unprecedented involvement among the highest levels of political leaders in child survival and development actions. Many Heads of State or Government and parliamentarians in all continents personally participated in national vaccination campaigns. Heads of State and Government made collective declarations of their commitment to child survival and development at Summit meetings of the Organization of African Unity (OAU), the SAARC, the Commonwealth and Francophone nations, the non-aligned countries, and even at the Summit meeting between the United States of America and the Union of Soviet Socialist Republics in Moscow in 1988. The World Summit for Children will undoubtedly be a milestone for putting and keeping the needs of children high on the political agenda throughout the 1990s.

The world has a new capacity for delivering to every family knowledge for dramatically improving the well-being of children through radio and television, VCRS, popular theatre, and community organizations. A major effort should be undertaken to form alliances with activists who can galvanize this cumulative outreach to spread the knowledge and skills that can empower parents to improve the quality of life of their children.

Community participation

If goal achievements are to become self-sustaining there must be active, willing, and informed participation of communities. All development programmes – including those for child survival, protection, and development – must be responsive to people's needs, and must empower people to analyse and solve their own problems. Prescriptions based on the expertise and judgement of outsiders can be helpful, but communities' genuine ownership of programmes based on awareness and popular demand is a *sine qua non* for long-term success of all development programmes.

Area-based programme approaches

Area-based programming approaches, whether for integrated rural development or urban basic services, can serve as valuable testing grounds for community acceptance and sustainability of new programme interventions. Such programmes are also helpful in testing the appropriateness of sectoral goals in the context of multisectoral basic services approaches. As the felt needs of communities are multifaceted and synergistic rather than sectoral, the ideal development programmes are usually area-based basic services. To be successful and sustainable, even vertical programmes must be closely linked with and supportive of such multisectoral approaches.

Area-based programmes also offer the benefits of securing political commitment and leadership from the local administrative and political authorities.

Research and development

Further research and development in the major problem areas confronting the world's children would accelerate progress towards the goals for child survival, development, and protection. At present only 5 per cent of global expenditure on health research is devoted specifically to the health problems of developing countries. Investment is similarly inadequate in other research fields, such as education, agriculture, and energy, where results could improve the quality of life of the poor masses in developing countries .

The prospects for arms reduction and the lessening of international tensions may soon release some of the world's scientific talent from military research to more peaceful pursuits. Additional study in the field of international health research, both biomedical and social, could bring about dramatic improvements in providing better vaccines that are heat-stable and require fewer doses, and in the treatment and prevention of malaria, ARI, diarrhoeal diseases, and AIDS. The international community must greatly increase its support for research and development, and must encourage collaboration among institutions in both developing and industrialized countries in the study of major problem areas affecting the well-being of the most underprivileged children and families in the world.

Empowerment of women for development

In the past decade the primacy of women in much of the development process has been acknowledged and supported in various international fora and declarations. It is well known that the women of the developing world are responsible for producing and marketing most of its food crops. They also carry the main responsibility for food preparation and home-making, for water and fuel, for nutrition and health care, for hygiene, and for the education of the young. Women are the *de facto* heads of household in many families, particularly in situations characterized by migration, e.g.

from the rural to urban areas, or when families are displaced by armed conflict or natural calamity. And more women are taking up employment in the modern sector of the economy. Yet, in far too many development programmes, most of the education and training, technology and inputs, credits and investment are aimed at men–not women. To bridge this gap between the recognized role of women in development and their actual neglect, it is essential that women receive equal access–sometimes even preferential access–to education, training, credit, and other extension services. In particular, investment in female education, safe motherhood, income-generating activities, and labour-saving devices of particular relevance to women (such as more fuel efficient methods of cooking and less labour-intensive ways of preparing food and fetching water and fodder) are and should be regarded as among the most productive investments in social and economic development. Empowering women for development should therefore be both a means and an end of development.

The challenge of the 1990s is to disseminate what has already been learned from pilot projects on a scale that could lead to universal coverage of most of the basic services for human development.

Development with a human face

The need for "structural adjustment" of economies that are out of balance is now universally accepted. It is also increasingly recognized that too often the poorest segments of the population carry the heaviest burden of economic adjustment. Whereas in the early 1980s it was assumed that the negative repercussions of adjustment were unavoidable, recent studies (including some by UNICEF) have demonstrated that it is possible and highly desirable to design adjustment packages that seek to protect the poorest families and their children by improving the productivity and incomes of the poor, maintaining well-targeted food subsidies, and expanding primary health and basic education. This imposes tough choices on policy makers between services that are of concern to the richer and more powerful sections of society (the major city hospitals, universities, and national airlines) versus services that are of concern to the poorer and less powerful (immunization programmes, primary schools, and subsidies for public transport). The choice is not between adjustment or no adjustment, but between adjustment primarily aimed at balancing the budget and trade deficits, and adjustment that also seeks to protect the poor and the vulnerable and to enhance *their* productivity.

If the human and economic goals of the Fourth Development Decade are to be realized, the leaders of both industrial and developing countries will have to make even tougher choices as they pursue not just adjustment, but *development* policies with a human face in the 1990s. Unprecedented opportunities for action lie in the resolution of regional conflicts, progress in arms reduction by the super powers, prospects for reduced military expenditures, growing universal concern with the degradation of the environment, and support for human rights, including children's rights.

Growing evidence of the widening gap between what is technically and financially feasible in terms of low-cost, high-impact solutions to the most pressing problems of children and what is actually being accomplished points to some obvious areas for further action in the 1990s. While material and financial resources continue to be limited, the ratio of results to resources can be vastly improved. Several examples of impressive achievements in child survival and development by countries facing extraordinary odds in the 1980s indicate that much can be achieved with the right combination of technical interventions and social mobilization, backed by the necessary political will and vision. The lessons of these experiences should be used in formulating development strategies with a human–or perhaps a child's–face, in the same way the painful experiences of structural adjustment in the early 1980s has led to the growing acceptance of adjustment policies with a human face.

Environmental soundness and sustainability

A human environment characterized by high rates of morbidity, mortality, fertility, illiteracy, and ignorance is not conducive to sustainable development. The child survival and development goals proposed for the 1990s seek to improve this environment by combating disease and malnutrition and by promoting education. These contribute to lower birth rates and death rates, improved social services, better use of natural resources, and ultimately to the breakdown of the vicious cycle of poverty and environmental degradation.

Programmes to reach the human goals of the 1990s are highly compatible with and supportive of environmental protection because of their relatively low use of capital resources and high reliance on social mobilization, community participation, and appropriate technology. However, each programme needs to be tested against an explicit set of criteria for sustainability and environmental soundness. Children have the greatest stake in sustainable development as their survival, development, and protection depend on it. From their point of view, all development strategies must meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

Monitoring and evaluation

If human goals are to be central in measuring the performance of national and international development in the 1990s, data on changes in the infant mortality rate (IMR), the under-five mortality rate (U5MR), the maternal mortality rate (MMR), literacy rates, nutritional status, access to water and sanitation, and other social indicators must be collected and updated much more frequently than every 5 or 10 years, as at present. The current system of data collection and feedback are clearly not responsive enough to rapid appraisal of progress and constraints. To ensure rapid course correction and remedial action, new and innovative ways of monitoring and evaluating the attainment of the human goals of the Fourth Development Decade need to be devised.

For more than 10 years now, the international development community has been expressing serious reservations about the primacy of the GNP as the principal measure of a country's level and pace of development. If during the 1990s human development is accorded the place of primacy, the international community, under the leadership of the United Nations, should take bold measures to help develop more universally acceptable social indicators of development, such as those recently proposed by UNDP in its *Human Development Report*. This report proposes a Human Development Index based on life expectancy, literacy, and purchasing-power-adjusted gross domestic product.

A strategy is a coherent set of policies, programmes, and projects which defines the path to be pursued towards the achievement of a set of goals. The strategy provides the framework for plans and reconciles the trade-offs required when scarce resources are devoted to the pursuit of multiple goals.

The national U5MR is a particularly sensitive indicator, with its average annual rate of reduction a corresponding measurement of the rate of progress. In addition, other basic indicators, such as the rates of literacy, life expectancy, access to water and sanitation, and nutrition surveillance data, etc., should be strengthened, refined, and used to monitor progress towards the achievement of the goals of the Fourth Development Decade.

National capacity-building

A fundamental aim of development co-operation is to help countries and communities help themselves. External co-operation must not create or perpetuate dependency, but must enhance self-reliance. Accordingly, external aid must emphasize institution building and infrastructure development. Policies and programme approaches promoted by all donors, lenders, and partners in development co-operation, including UNICEF, must be tested not only for their effectiveness in tackling pressing current problems, but also for their potential to lay the foundation for long-term self-reliant development.

Focus on the Doable

The need to build infrastructures for long-term development is often used as justification for not investing in what is currently feasible. With human capital the most important factor for development of a nation, support of the many readily achievable goals for child survival and development must be defended as productive investment for national development, not just as essential consumption for social welfare.

Collaboration with other United Nations agencies

Increasingly, the United Nations development system is focusing on human development as the centrepiece of its contribution to the international development strategy for the 1990s. It is imperative that all parts of the United Nations system collaborate not only to promote human development goals and strategies, but also to advocate broader macro-economic goals and strategies in support of the human goals for the decade.

Besides the political commitment of governments and co-ordinated support by United Nations agencies, the success of the goals for children and development in the 1990s is also critically dependent on the active support of bilateral donors, regional institutions, and NGOs. Building effective partnership among these organizations is another key task for the decade.

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Reducing mortality among children under five

In brief

The Goal: Between 1990 and the year 2000, reduction of the infant mortality rate (IMR) and the under-five mortality rate (U5MR) in all countries by one third, or to 50 and 70 per 1,000 live births, respectively, whichever is less.

Every day, 40,000 children below the age of five die. The immediate causes are specific illnesses such as diarrhoea, acute respiratory infections (ARI), measles, tetanus, etc. But malnutrition, lack of access to safe water, sanitation, and primary health care, and ignorance and poverty are all major factors in these deaths. Thus, the achievement of this very ambitious goal will require, along with such proven life savers as immunization and oral rehydration therapy (ORT), a commitment by world leaders to sustainable human development in all its dimensions.

The goal of reducing infant and under-five mortality by one third (to 50 and 70 deaths respectively per 1,000 live births, whichever is less) is one that, in a way, reflects the cumulative impact of all the other goals. Lowered mortality is an indicator of overall well-being as well as a reflection of improvements in health. Progress towards lowering malnutrition, improving access to water and sanitation, and ensuring universal basic education will help lower infant and child mortality.

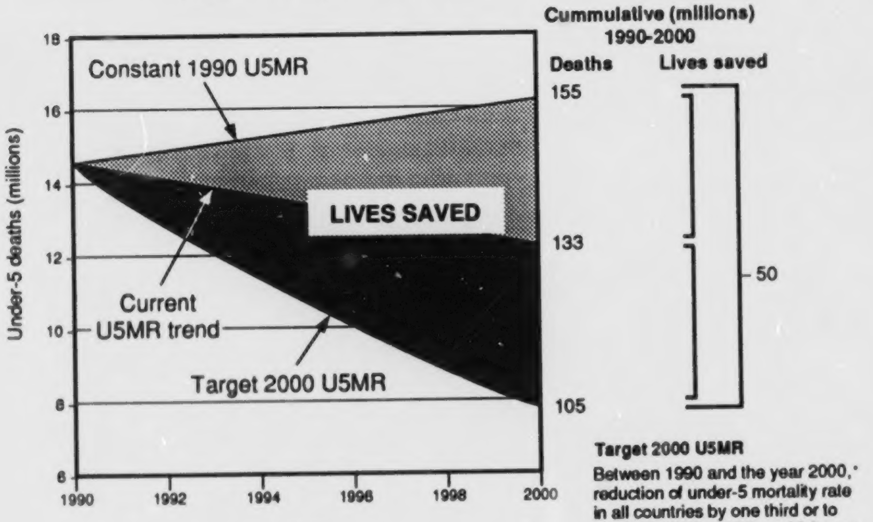
It is unconscionable that 40,000 children die every day. Reaching the goal will mean that "only" 21,000 will die every day, still a frightening figure. But if the goal is reached 28 million fewer child deaths will have occurred by the year 2000 than if the current mortality trend is allowed to continue.

As recently as 1960, the probability of death before the age of five (the under-five mortality rate or U5MR) was one in five for the world as a whole and almost three in ten for most of Africa and South Asia. Significant progress has been made since then.

The world's U5MR has been reduced by nearly half since 1960, thanks to general improvements in health and social services, education, and economic well-being for many families, though not for all. If this downward trend in under-five mortality continues, we can expect that the annual child death toll will drop from the current 14.6 million to 12.2 million in the year 2000. The joint goal adopted by WHO, UNFPA, AND UNICEF and now proposed for the World Summit for Children would lower this toll even further, to 7.8 million.

Saving children's lives in the 1990s

(Under-5 mortality rate = U5MR)



Source: UNICEF, based on United Nations Population Division estimates

Target 2000 U5MR
Between 1990 and the year 2000, reduction of under-5 mortality rate in all countries by one third or to 70 per 1,000 live births, whichever is less.

In the last decade, economic progress came to a halt in most of Africa and Latin America, yet the U5MR continued to decline (though more slowly than it declined in other developing countries). Thanks in part to the massive promotion and use of life-saving technologies, notably immunization and ORT, many deaths were prevented, despite the worsening economic conditions.

There are limits, however, to what can be achieved by such technological breakthroughs alone. There are indications, for instance, that malnutrition, especially in Africa, increased during this same period, and the AIDS pandemic threatens to undo much of the progress made. It is doubtful, therefore, whether the historic decline of U5MR can be sustained and accelerated without attacking mortality on a broader front.

Progress in immunizing children, conquering measles, increasing the use of ORT, and bringing effective treatment of pneumonia to the community level must continue. In the 1990s, however, child mortality has to be viewed as a problem that transcends the health sector alone. It must be seen as a problem of nutrition, education, water supply and sanitation, and ultimately of sustainable human development in all its dimensions.

The consequences of high child mortality

Parents in the world's Least Developed Countries still face the prospect that one out of every five children born to them will die before the age of five. A major objective of the Summit is precisely to rid the world of this spectre. The cost of child mortality is enormous, in grief, in human potential lost, in the apathy and fatalism it breeds.

The tendency for couples to have more children to compensate for expected child deaths destroys women's health and their hopes for education and economic advancement, not to mention the impact it has on population growth. High rates of child mortality are in every way part of a package of underdevelopment: they help create it, they feed it, and they are its surest indicator.

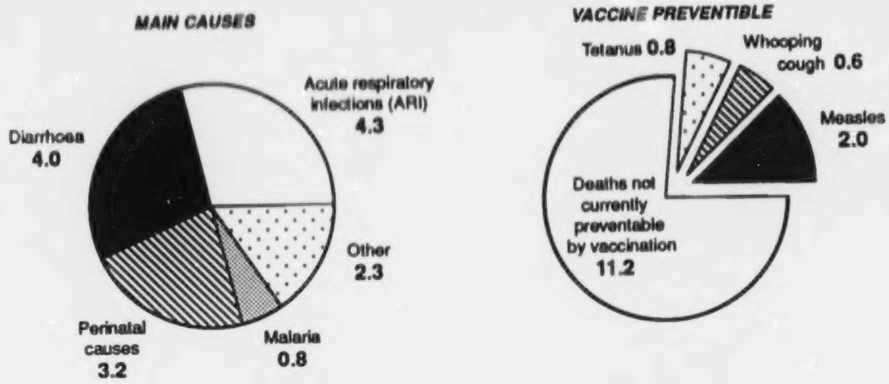
Why millions die

The reasons for infant and child mortality are numerous and multi-tiered. The immediate cause of a child's death is usually a disease, often preventable or readily treated with low-cost interventions. The graph on the next page shows the approximate breakdown of immediate causes of child deaths according to WHO.

About 3.4 million or 23 per cent of the 14.6 million child deaths occurring annually are preventable by vaccination. Nearly 70 per cent of the 4 million deaths from diarrhoea could be prevented by ORT. Of the 2.8 million deaths from ARI that are not vaccine preventable, most are due to pneumonia, which in many cases can be prevented by timely treatment with antibiotics.

Behind these immediate causes of death, however, lie factors such as malnutrition, ignorance, and, ultimately, poverty. Malnutrition, for instance, is associated in about one third of all child deaths. Malnourished children lack the defenses well nourished children have, and succumb to diseases such as measles that well nourished children would survive.

Illiteracy, ignorance of basic hygiene, and lack of access to water and sanitation are other underlying causes of child mortality that increase the risk of infection and limit the capacity to deal with it. All these in turn are symptoms of poverty and inadequate human development. Ways of dealing with these problems within each sector are discussed in many other chapters of this sourcebook. To reduce mortality as a whole, however, it is important to emphasize the intersectoral nature of the



Annual child deaths

Developing countries, around 1985

(in millions)

Measles and whooping cough vaccines prevent mainly ARI deaths.
Measles vaccine also prevents diarrhoea deaths.
Tetanus vaccine prevents perinatal deaths.

Source: World Health Statistics Quarterly 43.2 (1990) in preparation.

problem and the need for the services of various sectors to converge in time and place, as needed by people with multifaceted problems in concrete circumstances.

Mortality is mulitsectoral

The need for actions in different sectors to converge on a single problem can be illustrated by the example of the third most important killer of children in the world after ARI and diarrhoea: perinatal causes. Several measures discussed in the chapter on maternal mortality can help reduce perinatal and neonatal deaths in children as well. But simply immunizing women against tetanus, providing them with trained birth attendants and services for referral, and transporting high risk cases will not be enough to combat all deaths due to perinatal causes.

Low birth weight, for instance, is an important perinatal factor that in turn depends on maternal nutrition in many cases. Maternal health and maternal nutrition improve when women are educated and have adequate nourishment and when their work burden is reduced through access to a safe water supply and cooking fuel. Only through action in all these sectors will the number of infant deaths due to perinatal causes be brought down to levels that might be considered tolerable.

As services need to converge on a family and complement each other, they also need to be universal. Many population groups are easily forgotten in the design of service coverage: those living in settlements of less than 500 inhabitants, for example, or ethnic minorities, nomads, populations displaced by war and other disasters, those living in remote areas whom it is difficult to reach, or those living in the slums and shanty towns of major cities—all must be included if a serious and lasting impact is to be achieved on the problems of infant and child mortality.

Constraints

The principal obstacles to lowering infant and child mortality are poverty and the lack of resources to provide primary health care, and basic education, nutrition, and water and sanitation services. The costs per capita of providing these are discussed in the various chapters of this volume and are not unreasonable; the world as a whole could afford them. The difficulties are assuring that available resources are put to optimal use, attracting the additional resource transfers needed, and assuring the revitalization of economic growth to sustain progress. These are discussed in the concluding chapters of this volume.

In the 1990s, child mortality has to be viewed as a problem that transcends the health sector alone. It must be seen as a problem of nutrition, education, water supply and sanitation, and ultimately of sustainable human development in all its dimensions.

Another serious potential obstacle is the spread of new diseases such as AIDS. Efforts must be made to restrict the transmission of AIDS, as proposed in the chapter on the disease.

And, finally, uncontrolled population growth interacting with poverty and the limitations of the physical environment will make it more difficult to reduce mortality. The promotion of family planning must be part of the overall effort as set forth in the chapter on child survival and population growth, and the chapter on child spacing, in this sourcebook.

Measuring mortality

Decisions concerning what to do about the problem require clear and reliable data on mortality and the risk factors associated with it. Registers of vital statistics tend to be weakest precisely where mortality is highest. Efforts to strengthen vital statistics are under way and deserve greater support. Considerable progress has also been made over the past decade in strengthening survey capability for measuring infant and child mortality in decentralized and relatively low-cost ways. Measuring mortality by specific causes (or even by causes as perceived by parents through a technique called "verbal autopsy") has been done less widely, but experience is growing in this field as well.

Once national officials at central, provincial, and district levels begin receiving timely and credible information on how many children are dying and what is killing them, they can focus their resources more efficiently on those programmes and actions that will prevent such deaths. This is why the strengthening of national and sub-national record keeping and measurement capability is so important.

Another benefit of improved child mortality monitoring is the use that can be made of such information for advocacy and social mobilization. More valuable than a single IMR or U5MR for a country as a whole are up-to-date mortality figures disaggregated to show those parts of the country or those groups within the country where mortality is highest. Public attention, where appropriate, can thus be called to such disparities and priority assigned to those places and groups.

A world-wide commitment

Because the goal of reducing infant and child mortality depends on the achievement of so many other goals, it is perhaps the most ambitious one of all. The UNDP's recently published *Human Development Report* points out that if progress continues only at the rates occurring in past years, some 23 countries will not attain the target until after 2050.

The gentle downward slope of current trends must be bent to a steeper angle. Demographic trends do not change easily, but they can be changed. Perhaps it is only with a world-wide commitment at the highest levels, for which the World Summit for Children provides a unique opportunity, and a subsequent mobilization of all the forces of society to accelerate the decline in infant and child mortality, that this goal, whose attainment would be the crowning achievement of the decade, can be reached.

Further reading

The State of the World's Children 1989. Published for UNICEF by Oxford University Press. New York. 1989.

INFANT MORTALITY AND MORTALITY AMONG CHILDREN UNDER FIVE

	Infant mortality rate*		Under 5 mortality rate**		U5MR average annual reduction rate (%)
	1980	1988	1980	1988	1980-88
LATIN AMERICA & CARIBBEAN	**56**	**46**	**82**	**68**	**2.9**
Argentina	38	32	46	37	2.7
Bolivia	131	109	207	172	2.3
Brazil	75	62	103	85	2.4
Chile	34	19	43	26	6.3
Colombia	52	46	78	68	1.7
Costa Rica	25	18	31	22	4.3
Cuba	21	15	27	18	5.1
Dominican Rep.	79	64	102	81	2.9
Ecuador	76	62	107	87	2.6
El Salvador	76	58	110	84	3.4
Guatemala	76	58	130	99	3.4
Guyana	65	56	82	71	1.8
Haiti	133	116	197	171	1.8
Honduras	88	68	140	107	3.4
Jamaica	23	18	29	22	3.5
Mexico	56	46	83	68	2.5
Nicaragua	84	61	132	95	4.1
Panama	29	23	43	34	2.9
Paraguay	47	42	70	62	1.5
Peru	102	87	144	123	2.0
Trinidad & Tobago	25	20	29	23	2.9
Uruguay	37	27	43	31	4.1
Venezuela	41	36	50	44	1.6
MIDDLE EAST & NORTH AFRICA	**89**	**68**	**131**	**93**	**3.7**
Algeria	100	73	147	107	4.0
Egypt	110	83	164	125	3.4
Iran, Islamic Rep.	89	55	130	90	4.6
Iraq	80	68	110	94	2.0
Jordan	59	43	80	57	4.2
Kuwait	28	19	34	22	5.4
Lebanon	48	39	62	51	2.4
Libyan Arab Jamahiriya	102	80	150	119	2.9
Morocco	103	80	152	119	3.1
Oman	88	40	146	64	10.3
Saudi Arabia	92	70	131	98	3.6
Syria	64	47	87	64	3.8
Tunisia	79	58	113	83	3.9
Turkey	106	74	133	93	4.5
United Arab Emirates	35	25	43	32	3.7
Yemen	137	115	227	190	2.2
Yemen, Dem.	142	118	236	197	2.3
AFRICA SOUTH OF THE SAHARA	**121**	**105**	**203**	**176**	**1.7**
Angola	155	173	272	292	-0.9
Benin	125	109	211	185	1.6
Botswana	79	66	110	92	2.2
Burkina Faso	155	137	265	233	1.6
Burundi	127	111	215	188	1.7
Cameroon	107	93	176	153	1.8
Central African Rep.	143	131	244	223	1.1
Chad	148	131	253	223	1.6
Congo	83	72	132	114	1.8
Côte d'Ivoire	110	95	166	142	2.0
Ethiopia	154	153	260	259	0.1
Gabon	117	102	194	169	1.7
Ghana	100	89	165	146	1.5
Guinea	165	146	281	248	1.6
Kenya	84	71	133	113	2.0
Lesotho	117	99	161	136	2.1
Liberia	101	86	173	147	2.0
Madagascar	140	119	216	184	2.0
Malawi	170	149	300	262	1.7
Mali	185	168	323	292	1.3
Mauritania	143	126	249	220	1.6
Mauritius	33	22	42	29	4.6
Mozambique	157	173	258	298	-1.8
Namibia	121	105	202	176	1.7
Niger	151	134	258	228	1.6
Nigeria	119	104	198	174	1.6
Rwanda	136	121	231	206	1.4
Senegal	120	80	205	136	5.1
Sierra Leone	172	153	300	266	1.5
Somalia	146	131	247	221	1.4

INFANT MORTALITY AND MORTALITY AMONG CHILDREN UNDER FIVE

	Infant mortality rate*		Under 5 mortality rate**		U5MR average annual reduction rate (%)
	1980	1988	1980	1988	1980-88
AFRICA SOUTH OF THE SAHARA (continued)					
South Africa	89	71	120	95	2.9
Sudan	124	107	210	181	1.9
Tanzania	120	105	201	176	1.7
Togo	106	93	176	153	1.8
Uganda	113	102	187	169	1.3
Zaire	105	83	174	138	2.9
Zambia	91	79	146	127	1.7
Zimbabwe	83	71	132	113	1.9
ASIA	**81**	**60**	**114**	**85**	**3.0**
Afghanistan	183	171	321	300	0.9
Bangladesh	132	118	211	188	1.4
Bhutan	143	127	222	197	1.5
China	40	31	56	43	3.3
Hong Kong	11	8	14	10	4.2
India	118	98	180	149	2.4
Indonesia	100	67	145	119	2.5
Kampuchea	211	127	330	199	6.3
Korea, Dem.	32	24	43	33	3.3
Korea, Rep.	32	24	43	33	3.3
Laos	128	109	189	159	2.2
Malaysia	31	24	42	32	3.4
Mongolia	57	44	77	59	3.3
Myanmar	85	69	118	95	2.7
Nepal	143	127	222	197	1.5
Pakistan	125	108	192	166	1.8
Papua New Guinea	79	57	111	81	3.9
Philippines	52	44	86	73	2.1
Singapore	11	9	15	12	2.8
Sri Lanka	43	32	58	43	3.7
Thailand	52	38	67	49	3.9
Viet Nam	83	63	116	88	3.5
INDUSTRIAL COUNTRIES	**13**	**9**	**17**	**12**	**3.9**
Albania	47	28	58	34	6.7
Australia	11	9	14	10	4.2
Austria	14	8	18	10	7.4
Belgium	12	10	17	13	3.4
Bulgaria	29	15	25	20	2.8
Canada	10	7	13	8	6.1
Czechoslovakia	17	12	21	15	4.2
Denmark	8	8	11	11	0.0
Finland	8	6	9	7	3.1
France	10	8	13	10	3.3
German Dem.	12	8	17	12	4.4
Germany, Fed.	13	8	17	10	6.6
Greece	20	13	23	18	3.1
Hungary	23	17	26	19	3.9
Ireland	12	7	15	9	6.4
Israel	16	11	18	14	3.1
Italy	15	10	18	11	6.2
Japan	8	5	12	8	5.1
Netherlands	9	8	10	8	2.8
New Zealand	13	10	15	12	2.8
Norway	8	8	10	10	0.0
Poland	21	16	24	18	3.6
Portugal	25	14	29	17	6.7
Romania	28	22	35	28	2.8
Spain	13	9	17	12	4.4
Sweden	8	6	9	7	3.1
Switzerland	9	7	11	8	4.0
United Kingdom	13	9	16	11	4.7
USSR	27	25	33	32	0.4
USA	13	10	16	13	2.6
Yugoslavia	32	25	36	28	3.1

Source: The State of the World's Children 1990, Tables 1 and 9, and UN Population Division.
(For explanations and qualifications of specific figures, see notes there.)

* Annual number of deaths of infants under one year of age per 1,000 live births.
** Annual number of deaths of children under five years of age per 1,000 live births.

Figures for country groupings are median values.

Child survival and population growth

In brief

The world's population doubled to 5 billion between 1950 and 1987, and is expected to reach 6.3 billion by the year 2000. Thereafter, global population could reach anywhere between 8 and 14 billion, depending on how quickly the world arrives at the level of replacement fertility, before stabilizing sometime in the late twenty-first or early twenty-second century.

Contrary to popular belief, accelerated child survival strategies, when combined with direct family planning measures, actually result in slower population growth, thereby making a stable and lower total world population attainable earlier.

The effects of major improvements in child survival on world population growth are often misunderstood. One assumption is that any reduction in child mortality rates must automatically add to population and population growth rates and that any reduction in the number of children dying each year would increase total world population, now and in the future.

In fact, the opposite is the case. Actions which extend child and maternal health services and expand educational opportunities for girls and women help to both increase child survival and reduce fertility, making for lower population growth rates in the longer run.

When combined with direct family planning efforts, actions to accelerate child survival are likely to lead to *slower* population growth and, therefore, the earlier attainment of a stable and lower world population than would be the case if family planning or child survival measures were taken independently of each other.

This interactive relationship is the essential logic for stressing the complementarity of vigorously pursuing child survival and family planning as key elements of maternal child health and human advancement.

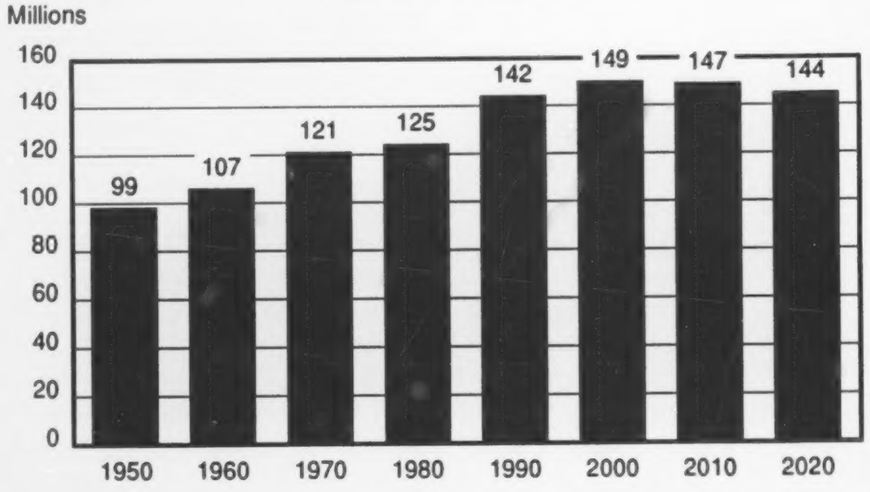
Population growth – the facts and figures

World population was about 300 million 2,000 years ago. It then took some 1,500 years for population to double. By 1750, world population began to rise steadily at the then unprecedented rate of about 0.5 per cent per year. The most rapid increase occurred in what are today's developed countries, mainly in Europe. Growth was slower elsewhere. By 1900, world population had doubled again, reaching 1.7 billion.

Population growth continued to accelerate in the course of the present century, reaching a 1.5 per cent annual growth rate by 1950 and a peak rate of 2 per cent around 1965. Total population doubled yet again, going from 2.5 billion in 1950 to 5 billion in 1987. Developing countries accounted for 85 per cent of that growth.

The 1990 estimated population of 5.3 billion is expected to reach 6.3 billion by the year 2000. Thereafter, the numbers of children being born will decline, leading to ever slowing rates of population growth until the world's fertility rate falls to the replacement rate and the numbers level off (see graph below).

Annual number of child births, world, 1950-2020



Note: estimates for 1950-80, and projections (medium varient) for 1990-2020.
Sources: UN Population Division, World Population Prospects 1988.*

The United Nations Population Division has projected three estimates for population growth and possible dates for the eventual levelling off of world population.

The medium variant assumes that the world will reach replacement fertility by the year 2035, in which case population will stablize at 10.2 billion—double today's figure—towards the end of the twenty-first century.

If replacement fertility, however, is reached 30 years later, eventual world population would be over 14 billion—the Population Division's high variant. This figure would be attained only in the twenty-second century and would be almost three times today's population.

In the low variant projection, if replacement fertility is achieved more quickly—by the year 2015—global population would level out at around 8 billion, 6 billion lower than the high variant projection.

The synergism between child survival actions and effective family planning programmes means that the two together can bring about population stabilization at an earlier date and at a lower level than either acting alone.

A vigorous programme of child survival and family planning interventions pursued over the next 10 years and into the early years of the next century would make an outcome between the lower and the medium variants more likely.

The interaction of child survival and fertility

The role that child health interventions can play in reducing birth rates and the role family planning interventions can play in reducing child mortality depend on the settings in which the interventions are applied.

The actual fertility consequences of a particular health intervention depend not only on the type of intervention, but also on the prevalent family-building strategy and the nature and scope of family-planning programmes in the particular location in question. Specifically, the ready availability of family-planning services was found to intensify any fertility decline resulting from improvements in child survival in most settings by providing parents with greater control over their fertility.

In order to enhance the fertility-reducing effects of child survival improvements, programme managers must, therefore, vary the mix of programmatic components in an integrated child health/family-planning policy to suit local circumstances.

Child survival factors that affect fertility

Child survival can influence fertility levels because of four closely related and interacting factors, identified as the physiological, replacement, insurance, and confidence factors.

The *physiological* factor arises when an infant dies which, more often than not, means an end to breastfeeding and its inherent "natural contraceptive" effects.

The *replacement* factor arises following the death of a young child, which prompts many couples to replace the loss of a child by a new pregnancy. Studies in Bangladesh show that an infant death reduces the average interval between births from more than three years to less than two. Families which experience the death of a child are much less likely to use any method of birth planning.

The *insurance* factor occurs when child death rates are high, since parents often insure against an anticipated loss by having more children. Not being aware of the statistical probability of their next child's living or dying, people tend to plan on the basis of the worst that could happen. This often means they over-compensate, making the average family size greater than desired.

The *confidence* factor is the realization by parents that they have the power to take important decisions to improve their own lives. This is probably the most important prerequisite for the acceptance of family planning. Any change that reinforces parents' confidence in their ability to improve their own circumstances, therefore, makes the acceptance of family planning more likely. As almost all the main strategies of the child survival revolution offer parents more control, they all increase the likelihood of parents opting for smaller families.

Child survival strategies that directly reduce births

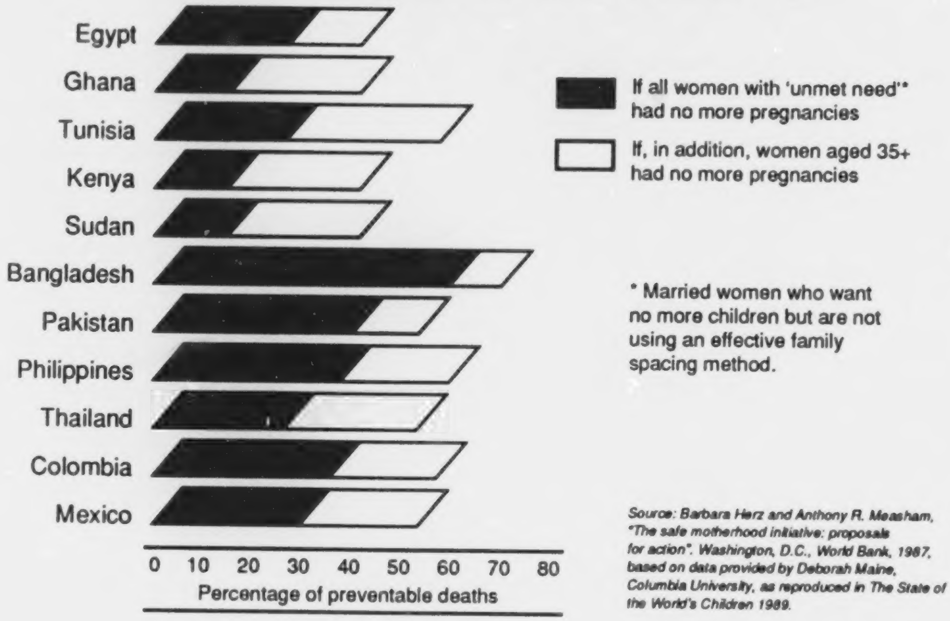
Some of the most important means now available for reducing child deaths are also among the most powerful means of reducing births.

Exclusive breastfeeding has a demonstrably significant effect on fertility rates, and WHO studies show a clear relationship between the length of time a woman breastfeeds and birth intervals. In population groups with a contraceptive prevalence of less than 10 per cent, there is an almost linear relationship between the proportion of mothers who breastfeed for 18 months and birth intervals that are greater than 2.5 years.

Promoting knowledge about the importance of timing births and providing the means to act on it is one of the most powerful child survival strategies and also reduces birth rates. Most child deaths happen to mothers who are younger than 18 or older than 35, or who have had more than four children already, or who give birth less than two years after a previous delivery. Children born in developing countries at the end of a birth interval of less than two years are, on average, twice as likely to die in infancy as are children born after a longer interval. According to some studies, as many as a quarter of all infant deaths and a quarter of all maternal deaths could be prevented by the well-informed timing of births (see chart on the following page).

Female empowerment, particularly in terms of education, not only benefits women, but also improves child health and survival. Educated mothers are also more likely to opt for smaller families.

Percentage of maternal deaths potentially preventable through timing births, selected countries



* Married women who want no more children but are not using an effective family spacing method.

Source: Barbara Herz and Anthony R. Measham, "The safe motherhood initiative: proposals for action". Washington, D.C., World Bank, 1987, based on data provided by Deborah Maine, Columbia University, as reproduced in The State of the World's Children 1989.

As Dr.Nafis Sadik, Executive Director of the UNFPA, says in *The State of World Population 1990*: "The surest way to achieve a sustained decline in fertility is to give a new priority to 'social' or 'women's resources' investment, to improving mother and child health, women's status and education, and to making family planning as widely available as possible to both women and men."

Over one third of the 140 million women in the developing world who became pregnant in the last 12 months wanted to postpone, delay, or limit their childbearing. And an estimated 200,000 of them died in the desperate attempt to terminate those pregnancies by means of illegal abortion.

Enabling those women to exercise their preferences, by safe means, would have brought benefits to both parents and children out of all proportion to the costs involved.

The spread of birth spacing has already been referred to as one of the great social advances of recent years. And it remains one of the greatest opportunities for obvious low-cost action in the years ahead. On maternal and child health grounds alone, the promotion of the knowledge to control the number and timing of births would claim an automatic place among the priorities of real development.

The fact that birth spacing also helps to lower rates of population growth, through people themselves choosing to have fewer children, is an enormous dividend for the development effort. But the fundamental case for making birth spacing available to all couples over the next five years is that it gives people significantly more control over their own lives—and that is what real development is about.

Stabilizing the population earlier

The synergism between this array of child survival actions and effective family planning programmes means that the two together can bring about population stabilization at an earlier date and at a lower level than either acting alone. The 1990s offer a remarkable opportunity to use this synergism—as many developing countries are now at the critical "point of parental confidence" where further reductions in child deaths are likely to bring even greater reductions in births.

The experience of individual countries shows the power of this combination. If all countries were to achieve the same under-five death rates and the same birth rates as Chile or Sri Lanka, for example, then the world would see approximately 10 million fewer deaths each year—and approximately 20 million fewer births.

Further Reading

The State of World Population 1990, Dr.Nafis Sadik, Executive Director, UNFPA.

PART TWO:

The health of mothers and children

Primary Health Care

In brief

The goal of health for all by the year 2000 was set more than 12 years ago. The Primary Health Care (PHC) approach, adopted at the Alma-Ata conference in 1978, is widely recognized as the key to effective health programmes for children and mothers, and two major initiatives taken in the 1980s have strengthened prospects for success in the 1990s.

The first is the Child Survival and Development Revolution (CSDR), which has been the leading edge for PHC development internationally. CSDR has saved millions of young lives, primarily through the promotion of Universal Child Immunization (UCI) and oral rehydration therapy (ORT).

The second is the Bamako Initiative, which was endorsed by Health Ministers in sub-Saharan Africa in 1987. The Bamako Initiative is addressing the health care crisis in the region with a strategy focused on, among other things, the decentralization of health services, community participation in PHC management, and the financing of reliable and rational drug supply systems which are accessible to all.

Despite the remarkable post war resurgence of economic and social development in the 1950s and 1960s, it became obvious by the mid 1970s that the gap in health status between the "haves" and the "have-nots" in many countries was widening. The technical knowledge to ensure basic health care for all existed, but health resources were grossly misallocated towards technically complex, urban-based medical care, while large groups, who lived in rural and remote areas as well as in urban slums, remained beyond the reach of any permanent form of health care. It was against this background that a global conference was hosted by WHO, UNICEF, and the USSR at Alma-Ata in 1978.

Alma-Ata and primary health care

The Alma-Ata conference adopted PHC as a strategy to achieve acceptable levels of health for all. PHC was defined as "essential health care, based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in a spirit of self-reliance and self-determination."

The conference recommended that PHC include at least the following: 1.Education concerning prevailing health problems and the methods of identifying, preventing, and controlling them; 2. Promotion of food supply and proper nutrition, and adequate supply of safe water and basic sanitation; 3. Maternal and child health care, including family planning; 4. Immunization against the major infectious diseases; 5. Prevention and control of locally endemic diseases; 6. Appropriate treatment of common diseases; 7. Promotion of mental health; 8. Provision of essential drugs.

The Bamako Initiative responded to a decade of opportunities and constraints since Alma-Ata, and Africa's especially difficult economic situation, with a reemphasis on PHC focusing particularly on women and children.

Alma-Ata set the stage for a revolution in which the concepts of PHC and health for all would become an integral part of social development. The World Health Assembly and the UNICEF Executive Board endorsed the strategy of PHC in 1979, and in 1980 the United Nations General Assembly added its weight to the Alma-Ata resolution by linking Alma-Ata's objectives to the goals of the Third Development Decade in the 1980s. United Nations Member States were urged to show their solidarity by making the necessary resources for PHC available to poorer nations in the spirit of national and community self-reliance.

The resolution at Alma-Ata recognized the critical role of community participation, of intersectoral co-ordination of health care, and of the need to ensure universal coverage with the basic elements of PHC. These basic interventions were to be directed principally towards the health needs of young children and mothers in developing countries, in recognition of their inordinately high morbidity and mortality rates.

Progress in PHC

The 12 years since Alma Ata have brought significant advances in the application of PHC in many countries—both developing and industrialized. As health care and social systems have reduced disparities and increased their service coverage, morbidity and mortality rates due to infectious and parasitic diseases in particular, have declined significantly. Fertility rates have also been reduced.

Major successes in developing countries have occurred where there has been the political will to provide services emphasizing universal coverage, especially in the area of maternal and child health; where there has been increased community participation and local autonomy in health care; and where women's education and a knowledge of health care have significantly transformed health behaviour in the home. Emphasis on PHC has also improved health management systems in areas where communities share responsibility with formal government health authorities for delivering health services.

Where achievements have fallen short, the main causes have been political, social, or administrative constraints on the decentralization of power. Another stumbling block has been economic decline and its impact on systems of financing for PHC.

Effects of economic crisis

While the importance of health care financing was recognized at Alma-Ata, discussion on this subject in the final report was rather inconclusive, in part because the effects on the world economy of the oil shocks of 1973 and 1979 and the third world debt crisis had not fully registered among the international health leadership. It quickly became apparent, however, that the 1980s was a period of stagnation and recession affecting the poorest countries most severely, particularly those of sub-Saharan Africa, South Asia, and Latin America.

The global economic crisis highlighted basic social and developmental problems stemming from population growth, increasing urbanization, and environmental degradation, in these regions. In many countries, the motivation of health workers declined, and significant numbers migrated to richer countries. There was a virtual breakdown of health management systems, especially at the periphery. Supplies of basic medical requirements became spasmodic and attendance at clinics fell.

The overall deterioration raised the alarm that the goals of health for all through PHC would not be achieved without further urgent international action.

The child survival and development revolution (CSDR)

UNICEF's response in the 1980s was to appeal for CSDR as the leading edge for PHC development and the means of dealing directly with some major childhood diseases and the needs of pregnant women. It was recognized that modern communications had the potential to mobilize communities everywhere and empower families to become more involved in child survival. More effective communications were also seen as a means of improving intersectoral action for health.

There have been many achievements under the CSDR, especially in the field of immunization, and in the use of ORT to prevent deaths from diarrhoeal diseases. Successful advocacy for UCI not only saved many thousands of lives, but served to raise national consciousness to improve and extend PHC.

Many lessons have been learned from this intensification of efforts under CSDR. The great potential to harness community resources for social goals has been clearly demonstrated. And the relative ease with which coverage can be raised in countries with extensive health infrastructure has highlighted the urgent need to extend the PHC system in countries with poor infrastructure. The latter need to increase both the number and capacity of their health workers and to make them more accessible to underserved communities.

These lessons have profound implications in the 1990s for attaining the goal of health for all by the year 2000. And the lessons are especially important for the countries of Africa, south Asia and Latin America that have serious economic problems.

Countries in economic and social difficulties

The health of children and mothers in sub-Saharan Africa is especially precarious. Health care systems reach less than 40 per cent of the population and a significant number of the systems need rehabilitation. There is a shortage of medical supplies and the volume of resources directed to health is either stagnant or has declined in most countries.

Health care workers are very poorly paid and motivation is low. The managerial, supervisory, information, and training components of health care are quite weak in most countries, and new health problems such as AIDS and chloroquine-resistant malaria have increased the burden on communities and health care systems at large. At the same time, new attempts are under way to combat old scourges such as dracunculiasis, onchocerciasis, and micronutrient deficiences.

Faced with these challenges, many countries have demonstrated a will to improve their PHC systems. Political leaders throughout sub-Saharan Africa have become sensitized to the special problems affecting children and women; to the seriousness of population issues; to environmental degradation; and to the need to restructure their economies and health and social systems in ways that foster a genuine partnership between communities and government. A turning point in this regard was the Lusaka Declaration of 1985 which targeted 1986 as the Year of Immunization for the region.

The Bamako Initiative

In September 1987, African Health Ministers attending the 37th regional meeting of WHO in Bamako, Mali, addressed the need to redefine African health policies to meet the goal of health for all by the year 2000.

The Bamako Initiative responded to a decade of opportunities and constraints since Alma-Ata, and Africa's especially difficult economic situation, with a reemphasis on PHC focusing particularly on women and children. The strategy focused on community participation and the need to make the fullest use of local, national, and other available resources. It aims to achieve universal access to PHC through decentralized services and management, from national to district and local levels. It also stressed: the importance of community involvement in financing health care and services in partnership with the central government; community management of the resources generated; the critical importance of regular drug and medical supplies, and their rational use; and of ensuring the availability of essential drugs and services to the poorest members of society.

Many African countries have taken up this challenge to restructure their health systems. External support agencies need to recognize the significance of the Initiative and to offer timely assistance.

Goals for the 1990s

The principal goal of the 1990s is to reduce mortality among young children and mothers. To achieve that, families need ready access to functioning PHC systems and personnel who are competent to handle most of their basic needs and refer more serious problems to people with higher qualifications.

Health workers should always be on hand to "heal sometimes and to comfort always." They should be able to deal effectively with common life-threatenting conditions and to prevent them by supporting protective measures such as community health education, the provision of safe water supply and sanitation, antenatal care, immunization, breastfeeding and sound weaning practices, and family planning.

These interventions help to establish the credibility of health workers in the community and to guarantee the achievement of their goals.

Programme strategies

The strategy for the 1990s should be to emphasize the convergence of interventions to solve epidemiologically significant problems through the development and extension of PHC to all communities. There should be advocacy for intensified political action; for the flow of resources from the more privileged to the less privileged; and for the empowerment of people and communities with the knowledge, information, and technical support for decision making. District-level roles must be strengthened to deal effectively with a range of basic technical problems and surveillance, and to remain sensitive to community needs. Families and communities must have sufficient health knowledge to take charge of their own needs and to adjust their behaviour as necessary. This last is perhaps the most critical of all requirements for achieving the goal of health for all through PHC.

Prospects for the 1990s

This last decade of the twentieth century offers the greatest potential in modern times for the achievement of social objectives. The virtual end of the Cold War has opened the door to genuine collaboration among all nations to deal with major social problems, including the health needs of the poorest nations.

At the heart of this fundamental change in global relations is the desire for all nations and communities to be in charge of their own destinies—a desire totally in tune with PHC.

In the field of science and technology, there has never been such a variety of effective interventions that can be applied to the majority of health problems. The PHC strategy is the means for integrating these applications and technologies for the benefit of all. What is required now is the political commitment to make this happen in every country.

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Halving maternal mortality

In brief

The Goal: Between 1990 and the year 2000, reduction of the maternal mortality rate (MMR) by one half.

The health of infants and children and the health of mothers are intimately linked. Every year, more than half a million women die during pregnancy or childbirth, the vast majority of them in developing countries, doomed by poverty and social inequity. The conditions that take such a toll on women affect their infants and children also. Women debilitated by anaemia, malnutrition, and disease bear infants ill-prepared to withstand the traumas of unskilled deliveries, infections, and low birth weight. The toll in mothers' lives is matched by high infant mortality rates (IMRS). And infants who survive inherit a legacy of ill health.

The problem, however, is far from intractable: the MMR drops when mothers are monitored during pregnancy and those at particular risk of complication—between 5 per cent and 10 per cent of women—are identified and given skilled obstetric care; when communities offer mothers the services of trained birth attendants and accessible facilities; when family planning advice is available and the problems of women's social inequity are addressed.

More than 500,000 women die each year as a result of pregnancy or childbirth, all but 6,000 of them in developing countries. In the developing world overall, nearly 1 in every 200 pregnancies results in the death of the mother, a MMR of 450 per 100,000 live births. In those cases where there is no care or only unskilled care, as many as 1 in every 75 pregnancies results in the death of the mother.

Among certain subgroups, the risk of maternal death is particularly high. Young adolescents in Africa and Asia receiving no prenatal care may stand a 5 per cent chance of dying. An African woman's lifetime risk of dying from pregnancy or childbirth may be 1 chance in 15. A South Asian woman may have a 1 in 18 chance of dying. By comparison, the risk for women in industrialized countries, and even in a few developing countries in East Asia, has been reduced to the point where pregnant women carry only one two-hundredth to one five-hundredth that of women in less developed countries.

Maternal health is intimately linked with infant health and the risks of infant mortality. In the least advantaged countries, one half of infant deaths occur during the first month of life, linked to such factors as neonatal tetanus, low birth weight, prematurity, lack of oxygen, birth trauma, and infections—conditions also associated with poverty and high maternal mortality rates.

Furthermore, among infants who survive birth, the ill health and poor nutrition of their mothers, and the poor quality of health care they receive foreshadow a childhood of disease, nutritional deficiencies, and equally poor health care.

Without skilled prenatal and delivery care, even well-nourished and educated women will continue to run a high risk of pregnancy-related death. In the industrialized countries, maternal mortality remained between 200 and 300 per 100,000 live births through the 1930s, and did not fall to fewer than 10 per 100,000 until quality obstetric care became widely available, including improved standards for managing labour and delivery, better handling of complications, the use of antibiotics and blood transfusions, and the skilled performance of Caesarian section.

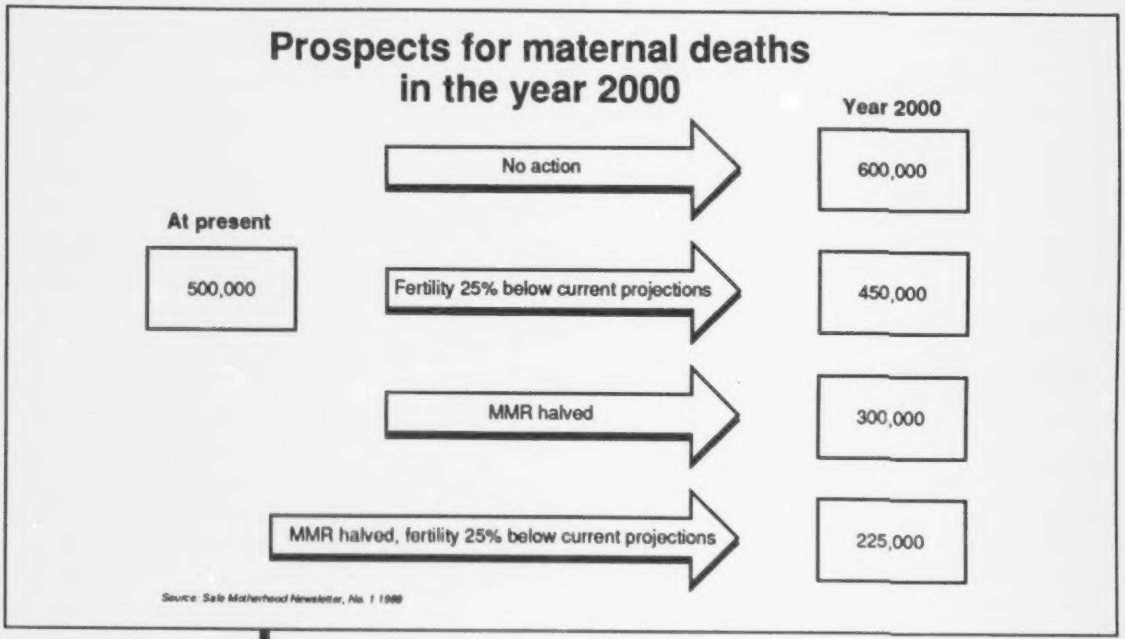
However, the reduction of maternal deaths need not be the exclusive privilege of the developed world. In Sri Lanka, where annual maternal mortality between 1950 and 1955 was 550 per 100,000, the rate was halved to 260 per 100,000 per year from 1960 to 1965, and by 1975 to 1980 was down to 80.

If the current MMRs remain unchanged, by the year 2000 there will be 600,000 maternal deaths per year. Yet, if Sri Lanka's example can be followed, that figure could be reduced to 300,000 or less.

Underlying causes

The risk of a maternal death begins with the health and nutrition of the future mother during childhood. A childhood legacy of short stature, low body-weight, and anaemia, coupled with early marriage and childbearing before social and biological maturity, are major contributors to maternal death. The geographic and cultural inaccessibility of family planning services and the erosion of traditional mechanisms of child spacing all contribute to the mother's risk.

Only slightly more than half of all deliveries in the developing world (excluding China) are supervised by a trained birth attendant, and no more than 30 per cent take place in an institutional setting. Even when women have physical access to essential and emergency obstetric care, they may



Prospects for maternal deaths in the year 2000

At present
500,000
No action
Fertility 25% below current projections
MMR halved
MMR halved, fertility 25% below current projections
Year 2000
600,000
450,000
300,000
225,000

Source: Safe Motherhood Newsletter, No. 1 1989

not use those services for a variety of social, cultural, or economic reasons. Or, too often, they call upon them too late. At least 5 to 10 per cent of women require skilled obstetric care when delivering. If they do not receive it in a timely fashion, they will die or suffer serious consequences. In such circumstances, the infant is often stillborn or seriously damaged.

What needs to be done

A large percentage of the maternal deaths in many countries are preventable with attainable resources and skills. If the facilities are made available, timely action and referral are usually possible. At the same time, increased literacy among women and their involvement in their own health care increases their understanding of their own health needs and their willingness to use maternal health services.

To have a significant impact on the levels of maternal mortality and morbidity, it is essential to have an integrated strategy that encompasses the four elements of maternal health and safe motherhood:

- redressing the social inequities confronting women;
- ensuring that couples have access to family planning;
- developing community-based maternity care; and
- providing back-up and support at the first level of referral for those women who require skilled obstetric care.

Some activities must clearly be seen as long-term investments for the benefit of women and society. Other activities will yield results in the medium term, paying dividends in the next generation on the investments made in the next few years. Others may produce results almost from the very beginning.

In the long term, the combination of education, improvement in the social status of women, and full access to family planning information and services would have a large effect on maternal mortality by decreasing the risk attributable to unwanted pregnancy and child-bearing during adolescence or at older ages among women who have already given birth several times. Such fertility variables may account for between 15 and 30 per cent of maternal mortality.

Governments can adopt the theme that "safe motherhood" and "child survival and development" are two sides of the same coin. They can endorse the fourfold strategy of the global movement for maternal health and safe motherhood: equity, primary health care, essential obstetric care for those at risk, and family planning.

In the short term, however, efforts to improve community-based family planning, prenatal care, and the training of traditional birth attendants (TBAS) would reduce maternal mortality by 8 to 22 per cent, i.e. to 350 per 100,000. This estimate is based on the expected effect of partially decreasing the infection component of maternal mortality and providing family planning to avoid a proportion of the abortion deaths.

TBAS can be taught simple techniques of identifying women with severe anaemia as well as increased risk of haemorrhage or eclampsia, which together account for 40 to 60 per cent of maternal deaths. These cases, however, require referral to a health centre or district hospital for the needed care.

By strengthening the district level to provide such obstetric functions as anaesthesia, blood for transfusions, vacuum extraction, and Caesarian sections, and if peripheral care were linked to and supervised from that level, maternal mortality could be reduced by 50 to 85 per cent, i.e. to 64 per 100,000 live births.

One major remaining obstacle to reducing maternal deaths is the logistical problem of transporting a woman in need of skilled care. A risk-conscious approach can, in part, overcome that obstacle, since many women who require higher-level care can be identified before they go into labour, and, depending on the degree of risk anticipated, can be sent to a district hospital or maternity waiting home in advance of their expected delivery dates. Communities can be involved in constructing and maintaining such maternity waiting homes.

The impact of such community-based interventions is far greater on neonatal health than on maternal health. Cleanliness during delivery and immunization of all women of child-bearing age with tetanus toxoid have been shown to reduce neonatal tetanus by 90 per cent to 95 per cent (virtually 100 per cent with immunization). The training of TBAs has reduced perinatal infant deaths from trauma, asphyxia, and sepsis by 40 per cent to 60 per cent.

Cost of halving maternal deaths

According to World Bank estimates, the cost of an integrated approach to maternal health care is $1.50 per capita per year, in addition to the cost of child health care and essential-drugs programmes. The maternal care component includes community-based prenatal care and family planning, health centres, and the strengthening of first-level referral for essential obstetric care. The latter would involve minimal upgrading and equipping of district hospitals, serving communities of from 100,000 to 200,000 persons.

In many countries the resources for such measures, whether from national, bilateral, international, or non-governmental sources, already exist or are attainable. The problem has been that the resources in question have neither been targeted to an integrated strategy nor allocated on the basis of risk.

Estimates can only be made on a country basis for the capital costs of up-grading and equipping the necessary facilities and of strengthening training programmes for midwives and other health workers.

WHO, World Bank, UNFPA, UNDP, and UNICEF have all made policy commitments to maternal health and safe motherhood. Limited funds have been made available by various multilateral and bilateral agencies and foundations for global-level research, training, and advocacy on this question. In a few countries, the agencies concerned have given priority to collaborating in and providing funding to programme development for maternal health.

Research needs

Operational and health systems research on the organization of maternal health services is a major priority if maternal health services are to be improved.

Operational research issues can be approached from three angles:

- **The organization and management of services.** Examples of research needed include examination of integrated programmes and community participation; studies of relative cost-effectiveness and acceptability of different combinations of maternal health, nutrition, and family planning interventions; studies on how social supports affect women's work, nutrition, and energy expenditure; research into distributing maternal health technologies, such as iron folate and antimalarials.

- **Development and adaptation of specific technologies.** Priorities would include research into such topics as plasma substitutes for replacing blood loss in shock; the home-based mother's record (HBMR) in self-identification and referral of women at high risk of complications during pregnancy or delivery; the use of the partograph to identify the need for referral or operative intervention; and devices for detecting severe anemia.
- **Case and programme management of specific conditions.** Topics to be studied would include the use of routine antibiotics in cases of prolonged labour or premature rupture of membranes and the training of TBAs and primary health care (PHC) workers in the use of a simple screening tool for hypertensive disease of pregnancy.

Contribution of this goal to sustainable national development

Maternal mortality is an indicator of social inequity and discrimination against women. It is an impediment to development and contributes to infant and child mortality. While many actions that could lower maternal death rates fall within the realm of the health sector, all sectors of society bear a responsibility for creating a social climate in which women's needs are accorded a high priority and in which simple but crucial preventive measures are no longer withheld through neglect.

What world leaders can do to help achieve this goal

Governments can adopt the theme that "safe motherhood" and "child survival and development" are two sides of the same coin. They can endorse the fourfold strategy of the global movement for maternal health and safe motherhood: equity, PHC, essential obstetric care for those at risk, and family planning. Leaders can commit themselves to take decisive steps to improve maternal health within their countries, drawing upon all funding sources — national, bilateral and international — and all sectors concerned.

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MATERNAL HEALTH

	Pregnant women immunized against tetanus (%) 1987-88	Births attended by trained health personnel (%)* 1983-88	Maternal mortality rate** 1980-87
LATIN AMERICA & CARIBBEAN	**27**	**57**	**72**
Argentina			69
Bolivia	25	36	480
Brazil		95	120
Chile		98	47
Colombia	40	51	110
Costa Rica	90	93	36
Cuba			34
Dominican Rep.	87	57	74
Ecuador	5	27	190
El Salvador	19	35	70
Guatemala	18	34	110
Guyana	57	96	
Haiti	56	40	230
Honduras	16	50	50
Jamaica	50	89	110
Mexico		94	82
Nicaragua	25	41	47
Panama	27	89	57
Paraguay	64	22	380
Peru	8	44	88
Trinidad & Tobago	60	98	54
Uruguay	13	97	38
Venezuela		82	59
MIDDLE EAST & NORTH AFRICA	**34**	**64**	**210**
Algeria		15	140
Egypt	88	47	320
Iran, Islamic Rep.	50	82	
Iraq		56	50
Jordan	54	83	
Kuwait	2	99	6
Lebanon			
Libyan Arab Jamairiya	12	76	80
Morocco	33	29	300
Oman	70	60	
Saudi Arabia	50	74	
Syria	40	37	280
Tunisia	34	68	310
Turkey	7	78	210
United Arab Emirates		96	
Yemen	3	12	
Yemen, Dem.	5	10	
AFRICA SOUTH OF THE SAHARA	**25**	**35**	**420**
Angola	19	15	
Benin	7	45	
Botswana	61	77	250
Burkina Faso	15	30	810
Burundi	69	21	
Cameroon	26		300
Central African Rep.	20	66	600
Chad	10	24	860
Congo	47		1000
Côte d'Ivoire	46	20	
Ethiopia	7	14	
Gabon	60	92	
Ghana	19	40	1000
Guinea	6	25	
Kenya	62	28	170
Lesotho		40	
Liberia	20	87	
Madagascar	6	62	240
Malawi	63	45	100
Mali	17	27	
Mauritania		20	
Mauritius	65	85	100
Mozambique	43	28	
Namibia			
Niger	8	47	420
Nigeria	20	40	800
Rwanda	43	22	210
Senegal	24	50	600
Sierra Leone	50	25	450

MATERNAL HEALTH

	Pregnant women immunized against tetanus (%) 1987-88	Births attended by trained health personnel (%)* 1983-88	Maternal mortality rate** 1980-87
AFRICA SOUTH OF THE SAHARA (continued)			
Somalia	26	2	1100
South Africa			83
Sudan	20	20	660
Tanzania	54	60	340
Togo	72	15	
Uganda	14	45	300
Zaire	43		
Zambia	45		150
Zimbabwe	22	69	480
ASIA	**33**	**52**	**140**
Afghanistan	6	8	690
Bangladesh	11	5	600
Bhutan	42	7	1710
China			44
Hong Kong	90	92	5
India	58	33	340
Indonesia	33	31	450
Kampuchea	3	47	
Korea, Dem.		65	41
Korea, Rep.		70	26
Laos	7		
Malaysia	53	82	59
Mongolia		99	100
Myanmar	24	57	140
Nepal	31	6	830
Pakistan	26	24	500
Papua New Guinea	17	34	900
Philippines	37	57	93
Singapore	90	100	5
Sri Lanka	38	87	60
Thailand	61	40	
Viet Nam		99	140
INDUSTRIAL COUNTRIES		**100**	**10**
Albania			
Australia		99	8
Austria			7
Belgium		100	9
Bulgaria		100	13
Canada		99	3
Czechoslovakia		100	10
Denmark		100	4
Finland		100	6
France		99	14
Germany, Dem.		99	16
Germany, Fed.		100	11
Greece		97	9
Hungary		99	26
Ireland			12
Israel		100	5
Italy		100	10
Japan		100	16
Netherlands		100	5
New Zealand		99	6
Norway		100	2
Poland		100	11
Portugal		87	12
Romania		100	150
Spain		96	11
Sweden		100	5
Switzerland		99	5
United Kingdom		100	9
USSR		98	48
USA		99	8
Yugoslavia		86	22

Source: The State of the World's Children 1990, Table 7.
(For explanations and qualifications of specific figures, see notes there.)

* Percentage of births attended by physicians,nurses, midwives, trained primary health care workers or trained traditional birth attendants.

** Annual number of deaths of women from pregnancy related causes per 100,000 live births.
Figures for country groupings are median values.

Immunization goals in the 1990s

In brief

Nearly 3 million children in developing countries have been dying each year from measles, tuberculosis, whooping cough, tetanus, polio, and diphtheria, all diseases easily prevented by immunization. When Universal Child Immunization (UCI) is attained, hopefully by the end of 1990, this toll will be reduced to 1.8 million annual child deaths.

The extraordinary success of UCI can be extended even further, reducing the annual death toll to 150,000 by achieving the following goals by the year 2000:

- **Maintenance of a high level of immunization coverage (at least 90 per cent of children under one year of age) against diphtheria, pertussis, tetanus, measles, poliomyelitis, tuberculosis, and against tetanus for women of childbearing age.**
- **Global eradication of poliomyelitis by the year 2000.**
- **Elimination of neonatal tetanus by 1995.**
- **Reduction by 95 per cent in measles deaths and reduction by 90 per cent of measles cases compared to pre-immunization levels by 1995, as a major step toward the global eradication of measles in the longer run.**

In the 1970s, smallpox, a disease that had decimated and disfigured entire populations across the centuries, was finally eradicated from the earth, through a comprehensive campaign of global immunization.

For the first time, the world united to wipe out a fearsome disease and six other major killers–measles, tuberculosis, whooping cough, tetanus, polio, and diphtheria–no longer seemed invincible. Encouraged by the unprecedented success of the global campaign against smallpox, WHO established the Expanded Programme on Immunization (EPI) to extend the protection against preventable diseases widely available to children in the developed world to children all over the globe.

Still, in the mid-1980s, more than three million children, primarily in developing countries, were still dying annually from those same diseases. The interlocking problems of poverty and malnutrition complicate the solution. Yet the diseases and the enormous toll they take on the most vulnerable children, families, and nations of the world, can all easily be prevented by vaccination:

- Nearly two million children have been dying each year from such complications of measles as pneumonia, diarrhoea, and encephalitis. One immunization at nine months of age (or as early as at six months, with a newly developed vaccine) can prevent measles.
- Neonatal tetanus kills over three quarters of a million babies in the developing world each year. Unsterile practices at birth cause the nearly always fatal infection of the umbilical cord. Mothers who are immunized against tetanus either during pregnancy or prior to becoming pregnant pass immunity to the disease on to their newborns. An infant can later receive lasting immunity through combined diphtheria/pertussis/tetanus (DPT) vaccinations around 6, 10, and 14 weeks of age.
- Whooping cough, or pertussis, has been claiming the lives of some 600,000 young children each year. It can be prevented by three doses of the DPT vaccine around 6, 10, and 14 weeks of age.
- About 200,000 children contract poliomyelitis each year and 20,000 die from it. It can be prevented by three doses of a vaccine given during the first year of life.
- Two million children under five years of age get tuberculosis and an estimated 30,000 die from it. Immunization is achieved with one dose of BCG (anti-tuberculosis) vaccine given after birth.

Universal child immunization

In 1977, three years after EPI was launched, the World Health Assembly challenged the countries of the world to achieve UCI by the year 1990. The goal eventually set was coverage of 80 per cent of the world's children by their first birthday with one dose of BCG, three doses of DPT, three doses of polio, and one dose of measles vaccines. The ministers of health in Africa set a regional target of 75 per cent, and China set 85 per cent as their level of coverage.

Many considered such levels of immunization unattainable in 1977. Between 1984 and 1988, however, a great international groundswell pushed the world substantially closer to realizing the goal. In 1985, the UNICEF Executive Board and the United Nations General Assembly affirmed full support to the goal of UCI 1990. They were joined by 74 governments and more than 400 voluntary organizations who pledged to support

UCI 1990 in commemoration of the fortieth anniversary of the United Nations.

Out of these commitments grew high-level international political support and co-operation between ministries of health, voluntary organizations, and other diverse talents, all necessary to marshall the required resources both nationally and internationally to complete national cold chains and delivery systems and to generate sufficient understanding and motivation by the public to seek out immunization for their children.

By the end of 1989, BCG coverage for tuberculosis had reached 81 per cent; 75 per cent of children received the third dose of polio vaccine; 73 per cent received their third DPT dose. Coverage against measles was at 71 per cent.

By 1987, most countries had established accelerated immunization programmes and were using a variety of strategies to improve immunization coverage. National mass campaigns were conducted to promote immunization, involving religious leaders, teachers, and other community leaders in advocating immunization. National immunization days, with intensive publicity and media support, protected millions of children. And meanwhile, health services made immunization a regular component of children's contacts with the health system. In some countries, immunization became a prerequisite for admission to schools or for other government services.

The immunization challenge for 1990s

A breakthrough–reducing the number of children's lives lost to diseases preventable by immunization to 150,000–is possible by the year 2000.

The World Health Assembly and the UNICEF Executive Board, targeting the diseases that exact the heaviest price in children's lives, have endorsed the following immunization goals to be achieved during the decade of the 1990s.

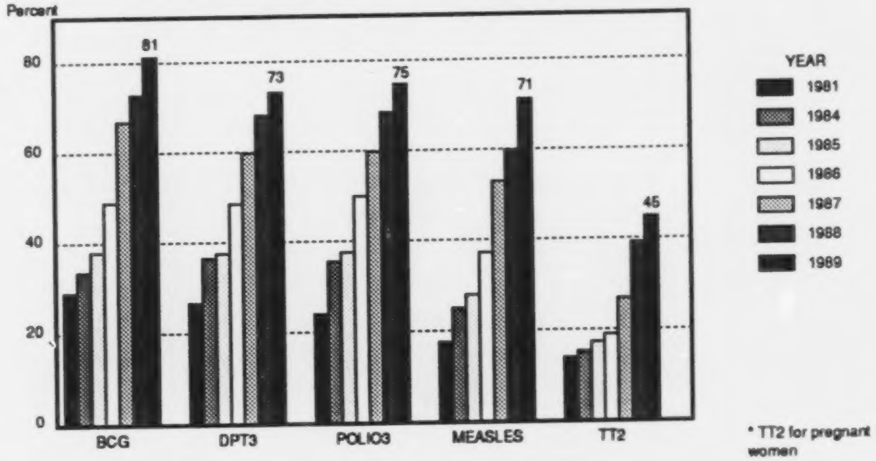
- Global eradication of polio by the year 2000;
- Elimination of neonatal tetanus by 1995;
- Reduction by 95 percent in measles deaths and reduction by 90 per cent of measles cases in 1995, compared with pre-immunization levels as a major step to the global eradication of measles in the longer run.

If the UCI goal of covering 80 per cent of children by the end of 1990 is reached, an estimated 1.8 million children will still die annually from the six major diseases. Achieving the goals above in addition to the goal of UCI, however, can reduce the devastating loss each year to 150,000 deaths, and free all children from disabilities due to polio, by the year 2000.

UCI's success at the end of 1989

The dramatic success of UCI up to now indicates that the breakthrough is feasible. In 1981, only around 20 per cent of the world's children had expanded immunization coverage. In 1984, levels were around 35 per cent. By the end of 1989, however, BCG coverage for tuberculosis had reached 81 per cent; 75 per cent of children received the third dose of polio vaccine; 73 per cent of children received their third DPT dose. Coverage against measles was at 71 per cent.

Increase in immunication coverage for under-one children* in developing countries



(China not included in 1981-84-85 data)

Source: UNICEF and WHO

* TT2 for pregnant women

June 1990

Tetanus toxoid (TT2) coverage for pregnant women, however, remained a problem, with only 45 per cent of women covered by two doses.

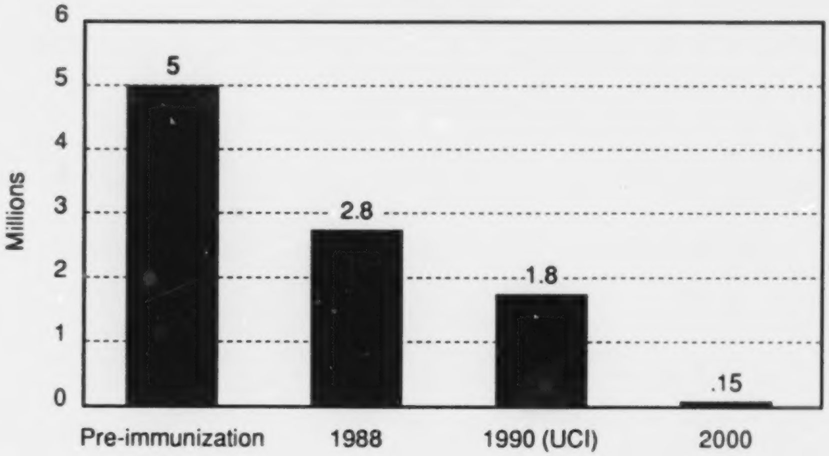
The number of developing countries achieving their UCI targets grew from 16 in 1986 to 43 in 1989. An additional 40 countries have managed to protect 60 per cent of their children against all six of the diseases targeted by EPI, putting the goal of UCI within their reach by the end of 1990.

The cost of sustaining universal child immunization

The cost of UCI varies greatly from country to country–from $5 to $25 for routine programmes. Using an average of $13 per child, as suggested by a recent review of literature on the subject, however, the annual cost of immunizing 80 per cent of infants in developing countries would be approximately $1 billion. It is estimated that in meeting this goal, the governments of developing countries themselves will bear 80 per cent to

Impact of immunization on child deaths

1980-2000



WHO estimates

90 per cent of the cost, leaving approximately $100 million to $150 million to be raised from external sources. This level of support will be needed for more than a decade in order to sustain the high levels of coverage that make UCI attainable.

Reaching the goals

Global Eradication of Poliomyelitis by the Year 2000

To reach the goal, WHO drew up a plan, approved by the World Health Assembly in 1989. The first step is to reach at least 80 per cent coverage with potent vaccines at district levels. Upgrading or replacing cold-chain facilities and training and supervising health workers will help ensure such a level of coverage.

A three-tiered global network of laboratories, modeled on the pattern successfully employed in the Americas is the second step. National laboratories, reference laboratories that serve selected countries, and at the third tier specialized laboratories will all have interrelated but distinct roles in helping confirm diagnoses and in confirming that the wild polio viruses are no longer circulating in the environment.

Health workers will continue to be trained, primarily as part of EPI. However, training for outbreak investigation and control and for clinical and laboratory diagnosis of poliomyelitis is also being conducted.

Societies are continuing to mobilize to immunize children as part of the UCI drive. And national medical establishments are being asked to commit their prestige and political influence to the effort, so government support remains firm until the last case of polio is diagnosed.

Research and development are improving polio vaccines in terms of formulation, efficacy with fewer doses, and heat stability. Better diagnostic tests are being created, and efforts are being made to improve management efficiency of the eradication effort.

And finally, health workers and families are encouraged to make early rehabilitation efforts for children who contract the disease. These efforts can prevent much of the need for surgical treatment. Better guidelines on which children require surgical treatment are also being developed, and braces are being improved.

Elimination of Neonatal Tetanus by 1995

Although tetanus will never be fully eradicated–tetanus spores can survive indefinitely in the environment without a human host–neonatal tetanus has virtually disappeared from industrial countries because of aseptic delivery practices.

In the developing world, however, conditions during births are often unsanitary, attendants are frequently untrained, and in many cultures, the umbilical stump is actually treated with materials containing the tetanus organisms.

The training of birth attendants to ensure clean hands and delivery surfaces and proper care of the umbilical cord can all reduce the risk of neonatal tetanus. But only by vaccinating all women who are pregnant or likely to become pregnant against tetanus will neonatal tetanus be eliminated.

In the next five years, the focus will be on ensuring that all pregnant women receive two doses of tetanus toxoid prior to delivery. This, together with the emphasis on clean delivery, will hopefully eliminate neonatal tetanus during the next five years. By also ensuring that girls receive three doses of DPT during the first year of life, one dose when they enter school, and two additional doses before they leave school, they and their future children will be protected.

The promotion of tetanus toxoid immunization is part of the Safe Motherhood Initiative established in 1987 by WHO, the World Bank, and UNFPA, and supported by many other organizations.

Reduction by 95 Per Cent in Measles Deaths and Reduction by 90 Per Cent of Measles Cases Compared to Pre-Immunization Levels by 1995 – a Major Step Toward the Global Eradication of Measles in the Longer Run.

Because measles is highly infectious, it is difficult to control, even in industrial countries with many years of high levels of coverage. In developing countries, where health services are often marginal, children frequently malnourished, and living conditions overcrowded and impoverished, control is much harder. Children are also infected at younger ages, sometimes before they are even nine months old.

Recent research has shown a high titre Edmonston-Zagreb strain of vaccine to be effective in children as young as six months of age. The EPI Global Advisory Group recommended in October 1989 that this vaccine be administered to children at six months of age in countries and areas where early measles is a problem. The vaccine, however, is not yet widely available.

In addition to high levels of immunization coverage in all communities of all countries at the earliest age possible, measles surveillance will be emphasized to find cases and control epidemics on a timely basis.

The countries of the English-speaking Caribbean have adopted the goal of measles elimination by 1995. Their strategy is to immunize all children between 12 months and 15 years of age by May 1991, regardless of their previous immunization status.

Research priorities for the 1990s: a children's vaccine

A major research and development effort aimed at producing improved vaccines more closely approaching the "ideal"–a single dose multi-antigen oral vaccine that is stable at ambient temperatures and produces life-long immunity–is under discussion. The effort would be called, simply, the Children's Vaccine Project. In addition to the current EPI diseases, it would seek to develop protection against pneumonia, hepatitis, influenza, mumps, chickenpox, and diarrhoea due to Rotavirus. Regional variants would also be sought in order to provide protection to children against typhoid, cholera, leprosy, shigella, and dengue.

A heat-stable vaccine would eliminate the need for, and cost of, what is now known as the "cold chain," the vaccine distribution system that requires refrigerators, refrigerated transport, skilled maintenance, and a whole series of logistic measures. If any link in this chain fails, the vaccine can be rendered useless. An oral vaccine would further eliminate the need for, and thus the expense and complications of, needles, which require sterilization and also have the potential for transmitting disease if sterilization is not properly performed.

Reducing the number of required doses–ideally to a single dose–would substantially reduce costs, solve the problem of dropouts, and help bring disease control and eradication goals within our grasp.

Basic and applied research must be carried out, field efficacy trials must be conducted, and production and marketing problems solved before all this can become a reality. However, much of the basic research is already–or nearly–in hand. What remains to be undertaken is an intensive international collaboration to bring together the elements of modern science in this effort for children. It would be a very fitting gift to the children of the twenty-first century if Heads of State assembled at the World Summit for Children were to pledge themselves and their research establishments to making this a reality within the decade.

Further reading

Protecting the World's Children: A Call for Action. Report on the Fourth International Child Survival Conference, Bangkok, Thailand, March 1-3, 1990. Available from UNICEF.

Assignment Children: Universal Child Immunization by 1990. UNICEF. Geneva. 1985.

IMMUNIZATION PROGRESS DURING THE 1980s

	Percentage of one-year-old children fully immunized*					
	DPT		**Polio**		**Measles**	
	1981	**1989**	**1981**	**1989**	**1981**	**1989**
LATIN AMERICA & CARIBBEAN	**42**	**62**	**42**	**86**	**38**	**67**
Argentina	46	74	38	81	73	78
Bolivia	13	40	15	50	17	70
Brazil	47	54	99	97	73	58
Chile	97	95	96	95	93	91
Colombia	20	75	22	92	26	73
Costa Rica	83	88	85	91	71	88
Cuba	67	94	82	94	49	97
Dominican Rep.	27	46	42	75	17	46
Ecuador	26	54	19	63	31	56
El Salvador	42	64	38	72	44	73
Guatemala	42	51	42	57	8	52
Guyana	45	77	37	79		69
Haiti	14	50	3	50		31
Honduras	38	77	37	83	38	86
Jamaica	39	85	37	84		71
Mexico	41	65	85	96	33	85
Nicaragua	23	64	52	82	20	61
Panama	49	71	50	71	53	75
Paraguay	28	67	26	71	16	58
Peru	18	58	18	59	24	52
Trinidad & Tobago	52	77	55	77		59
Uruguay	57	82	58	82	95	75
Venezuela	54	55	75	67	43	49
MIDDLE EAST & NORTH AFRICA	**40**	**80**	**45**	**81**	**40**	**77**
Algeria	33	81	30	81	17	73
Egypt	82	81	84	81	65	83
Iran, Islamic Rep.	29	88	47	89	48	89
Iraq	13	83	16	83	33	82
Jordan	81	94	87	94	40	84
Kuwait	54	92	76	92	66	93
Lebanon		7		7		3
Libyan Arab Jamahiriya	55	84	55	84	57	70
Morocco	43	79	45	79		82
Oman	9	96	9	96	6	94
Saudi Arabia	53	96	52	96	12	86
Syria	14	93	14	93	14	86
Tunisia	36	93	37	93	65	92
Turkey	64	79	69	79	52	71
United Arab Emirates	45	84	45	84	42	66
Yemen	25	56	25	56	40	48
Yemen, Dem.	5	40	5	40	6	35
AFRICA SOUTH OF THE SAHARA	**23**	**52**	**18**	**51**	**28**	**54**
Angola		18		19		42
Benin		42		42		41
Botswana	64	89	71	88	68	80
Burkina Faso	2	49	2	49	23	72
Burundi	38	82	6	82	30	73
Cameroon	5	53	5	51	16	48
Central African Rep.	12	20	12	20	16	32
Chad		79		79		75
Congo	42	42	42	42	49	41
Côte d'Ivoire	42	43	34	42	28	55
Ethiopia	6	26	7	26	7	23
Gabon		65		65		68
Ghana	22	51	25	51	23	65
Guinea		16		16	15	27
Kenya		77		78		65
Lesotho	56	77	54	81	49	75
Liberia	39	28	26	28	99	55
Madagascar	40	45		42		40
Malawi	66	90	68	89	65	84
Mali		26		26		40
Mauritania	18	28	18	28	45	45
Mauritius	82	87	82	88		82
Mozambique	56	39	32	39	32	48
Namibia						
Niger	6	12	6	11	19	12
Nigeria	24	58	24	57	55	59
Rwanda	17	84	15	83	42	83

IMMUNIZATION PROGRESS DURING THE 1980s

	Percentage of one-year-old children fully immunized*					
	DPT		Polio		Measles	
	1981	1989	1981	1989	1981	1989
AFRICA SOUTH OF THE SAHARA (continued)						
Senegal		67		67		65
Sierra Leone	15	34	13	34	28	37
Somalia	2	18	2	18	3	30
South Africa						
Sudan	1	52	1	52	1	43
Tanzania	58	85	49	82	76	83
Togo	9	55	9	55	47	62
Uganda	9	60	8	60	22	60
Zaire	18	38	18	38	23	40
Zambia	44	83	77	81	21	80
Zimbabwe	39	79	38	79	56	75
ASIA	**48**	**81**	**32**	**81**	**N/A**	**75**
Afghanistan	3	31	3	31	6	30
Bangladesh	1	49	1	49		52
Bhutan	13	70	11	76	21	36
China		95		96		95
Hong Kong	84	83	94	92		85
India	31	83	7	82		69
Indonesia		75		78		68
Kampuchea		22		22		20
Korea, Dem.	52	57	51	58	31	58
Korea, Rep.	61	86	62	87	5	96
Laos	7	21	7	22	7	20
Malaysia	54	72	61	72		50
Mongolia	99	69	99	69		58
Myanmar	5	47		42		47
Nepal	16	67	1	67	2	54
Pakistan	3	73	3	73	2	64
Papua New Guinea	50	53	32	52		52
Philippines	51	86	44	85		83
Singapore	87	96	88	95	57	98
Sri Lanka	45	89	49	87		81
Thailand	52	80	22	80		63
Viet Nam		68		68		71
INDUSTRIAL COUNTRIES	**91**	**65**	**95**	**68**	**90**	**78**
Albania	94	96	92	94	90	96
Australia						68
Austria	90	90	90	90	90	60
Belgium	95	95	99	97	50	50
Bulgaria	97	99	98	99	98	99
Canada		85		85		85
Czechoslovakia	95	99	95	98	95	98
Denmark	85	94	97	100		82
Finland	92	94	90	95	70	87
France	79	96	80	97		41
Germany, Dem.	80	94	90	97	95	99
Germany, Fed.	50	97	80	95	35	50
Greece	95	83	95	93		82
Hungary	99	99	98	99	99	99
Ireland	36	45	76	90		63
Israel	84	87	91	93	69	89
Italy		88		95		21
Japan		83		95		73
Netherlands	97	97	97	97	93	93
New Zealand	72	70		84		60
Norway		80		80		87
Poland	95	98	95	99	65	96
Portugal	75	78	16	80	70	84
Romania		92		94		90
Spain		74		78		81
Sweden	99	99	99	98	56	93
Switzerland		92		98		70
United Kingdom	44	70	71	87	52	76
USSR	95	79	95	80	95	79
USA		97		97	96	98
Yugoslavia	90	90	95	90	95	92

Source: UNICEF and WHO.
*Fully immunized = DPT and Polio, three doses each; Measles, one dose.
Figures for country groupings are weighted mean values.

Control of diarrhoeal diseases

In brief

The Goal: Reduction by 50 per cent, compared with 1990 levels, in the deaths due to diarrhoea in children under the age of five years and a 25 per cent reduction in the diarrhoea incidence rate.

Diarrhoeal diseases are the primary cause of infant and child mortality in most countries, responsible for over a quarter of all child deaths world-wide each year.

Yet oral rehydration therapy (ORT)—a simple and inexpensive method of replacing fluids and minerals lost during an episode of diarrhoea—could prevent up to two thirds of these deaths.

If cases of diarrhoea are correctly managed—by combining ORT with continued feeding, increased liquid intake, and the appropriate use of drugs and intravenous therapy—up to 95 per cent of these deaths could be prevented. More and more countries have the capacity to solve the problem. The challenge now is to put the control of these devastating but manageable diseases at the top of every national political agenda.

On average, children under five years of age in the developing world suffer from two to three episodes of diarrhoea a year, and as many as 150 children out of every 1,000 in developing nations may die from diarrhoea in the first two years of life. In all, acute diarrhoeal diseases cause an estimated 1.3 billion bouts of illness and around 4 million deaths each year in children under five.

In addition, repeated attacks of diarrhoea are a major cause of malnutrition and faltering height and weight gain. In a debilitating cycle, an undernourished child can suffer increasingly severe, and possibly more frequent, attacks of diarrhoea, leading to greater exposure to life-threatening dehydration.

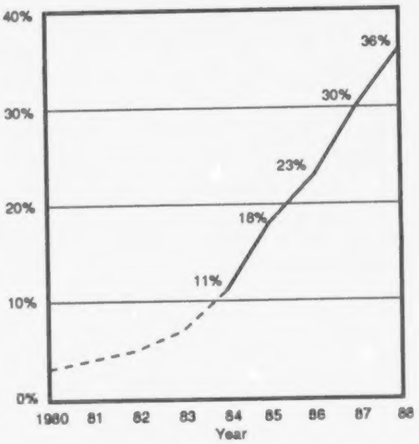
Progress in the 1980s

While the toll of diarrhoeal diseases on young children's lives remains high, substantial progress has been made in reducing their impact during the 1980s. Credit for many of these gains goes to the programmes now established in 112 countries to control diarrhoeal diseases.

One of the cornerstones of these programmes is ORT–the administration, by mouth, of a fluid in adequate quantities to replace the water and salts lost during diarrhoea. Its correct administration could reduce by two thirds the current deaths from diarrhoea.

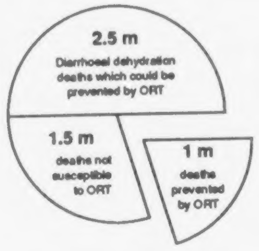
While much remains to be done, almost one in three children who develop diarrhoea is now treated with ORT, using either oral rehydration salts (ORS) or another recommended home-available solution.

Percentage of children under five with diarrhoea being treated with ORT, developing countries*, 1984-88.



Source: WHO (CDD) and UNICEF estimates

Annual deaths from diarrhoeal disease prevented and still occuring, developing countries*.



* Excluding China. Reference year for annual deaths is 1988.

The increased production of ORS is an indicator of their increased use. From 40 million packets produced world-wide in 1980, the figure rose dramatically to 330 million packets produced in 1988. And the number of developing countries producing ORS rose from 13 to 61 in the same period. The per cent of the world's population with access to ORS has grown from essentially zero in 1980 to almost 60 per cent in 1988, and should reach 80 per cent within the next few years.

Yet diarrhoea in many areas of the world continues to be treated inappropriately with antidiarrhoeals and antibiotics. In fact, an estimated $1 billion is spent annually on remedies that in many cases are useless or actually harmful.

Thirty per cent or more of admissions to children's hospitals or wards are due to diarrhoea. A study sponsored by WHO in 14 countries, however, demonstrated that hospital admissions dropped 61 per cent in countries where ORT was effectively promoted.

Managing care correctly

The correct care of diarrhoeal disease begins at home. At the onset of diarrhoea, mothers can immediately begin to administer increased amounts of whatever fluids are available, for example rice water, clear soup, or plain water.

At the same time, the mother should continue to breastfeed if the child is not yet weaned, and/or continue feeding the child a regular diet in smaller amounts, and usually at more frequent intervals.

The key danger in an episode of diarrhoea is that the child will become dehydrated. An essential part of correct care for diarrhoeal disease, therefore, is to ensure that mothers can recognize signs of dehydration. If a child shows signs of dehydration or if the child does not appear to be getting better, the mother should immediately administer ORS (if available) and seek care from a qualified provider outside the home.

ORS are necessary once dehydration occurs because most fluids available in the home are unable to correct the water and salt imbalances that occur in dehydration.

In a very small percentage of cases, when dehydration is severe, intravenous therapy may be necessary. Furthermore, in instances where blood or mucus are observed in the stool (for example, dysentery or shigella) antibiotics may be appropriate.

Even when dehydration occurs and children are treated in health centers with intravenous and antibiotic therapy, breastfeeding and other feeding should continue. And after an episode of diarrhoea, careful nourishment is also crucial to ensure adequate catch-up growth.

About 10 per cent of all cases of childhood diarrhoea last over two weeks and are classified as persistent. Correct treatment of persistent diarrhoea will become increasingly important during the 1990s. While only 3 per cent to 20 per cent of acute diarrhoeal episodes become persistent, up to 50 per cent of all diarrhoea-associated deaths occur during episodes of persistent diarrhoea.

Research is continuing, but current recommendations on treating persistent diarrhoea include appropriate feeding, vitamin supplementation, ORT, and in some cases, the use of antimicrobials and other medicines.

Mobilizing support

The treatment of childhood diarrhoea in the home and in health facilities can be improved in this decade if countries make commitments to the following:

- Increasing the involvement of parents and communities in the household management of diarrhoea. Control of diarrhoeal diseases must be promoted as a parent-centered initiative, with parents directly affecting the health and survival of their children. Parents' actions must, of course, be backed up by correct and easily accessible health care at all levels, especially that closest to the community.

> **A study sponsored by the World Health Organization in 14 countries demonstrated that hospital admissions dropped 61 per cent in countries where oral rehydration therapy was effectively promoted.**

- Mobilizing all levels of society to support and promote ORT as the preferred treatment for childhood diarrhoea. Strengthening the social and health-related infrastructures necessary for its widespread use must also be given priority attention. Training of health staff and other providers of care is an urgent priority.
- Continuing advocacy among health professionals to adopt ORT as their first line treatment for childhood diarrhoea. The resistance of doctors and other health personnel to changing existing attitudes and practices has been a formidable obstacle to the effective promotion of ORT.
- Improving methods for measuring the mortality and morbidity levels associated with diarrhoea. ORT use rates should be closely monitored; changes in practices known to affect the incidence of diarrhoea—including breastfeeding and hygiene practices—also need further development.

Preventing diarrhoea

The causes of diarrhoea vary from country to country and within countries as well, but research thus far suggests that the following interventions can help reduce substantially the incidence of childhood diarrhoea:

- Helping mothers improve infant feeding practices, especially breastfeeding and weaning practices;
- Ensuring that water supplies are safe and easily accessible and that communities use them correctly;

- Improving domestic and personal hygiene practices;
- Promoting measles immunization.

Research priorities for the decade

Since persistent diarrhoea is responsible for as many as one of every two diarrhoea-related deaths, research is needed to identify risk factors for it, as well as to determine the usefulness of advice on nutrition, antimicrobials (oral gentamicin, for example), vitamin supplementation, and other care strategies.

Comparisons need to be made of the effects of cereal-based vs. glucose-based ORS in young children with noncholera or low-purging diarrhoeas, in infants below four months of age, and in severely malnourished children.

There is concern as to how cereal-based home rehydration solutions may affect food intake and nutritional status during diarrhoea. The impact of cereal-based home rehydration solutions on clinically evident dehydration also needs to be evaluated.

And the success of interventions to prevent diarrhoea, including ways to change behaviours, needs to be examined.

Calculating the costs

To rehydrate a child in a health facility using ORS costs only about $1. At that rate, to cover all diarrhoeal episodes with prepackaged ORS in health facilities would cost about $1.3 billion.

Perhaps even more telling are the costs of not addressing the problem:

- Since an average child under five years old has between two and three episodes of diarrhoea each year, if each episode lasts between four and seven days, the child will spend somewhere between 8 and 21 days each year sick or debilitated by diarrhoeal disease. In Ghana, for example, it is estimated that 14,470 healthy days of life per 1,000 people are lost each year to diarrhoea-related ailments.
- Not only do children experience illness during these periods, but families (and particularly mothers) are constrained from fully participating in the social and economic life of their communities. For families already living on the brink of survival, these constraints can prove devastating.
- While national experience varies widely, it is estimated that globally $1 billion per year is spent on useless or harmful treatments for diarrhoea. This figure can be expected to increase in the 1990s.

The toll of diarrhoeal diseases on young children's lives remains high. Fortunately, the solutions are clear and well-defined. Furthermore, the capacity of most countries to implement them is steadily growing. The challenge is to put the control of diarrhoeal diseases at the top of every national political agenda.

Further reading

A Simple Solution: How Oral Rehydration Is Averting Child Death From Diarrhoeal Dehydration, by Glen Williams. New York. UNICEF. 1987.

The Treatment and Prevention of Acute Diarrhoea: Practical Guidelines. Geneva. WHO. 1989.

ORAL REHYDRATION THERAPY USE RATES, 1987*

LATIN AMERICA & CARIBBEAN	**30**
Argentina	3
Bolivia	53
Brazil	40
Chile	0
Colombia	12
Costa Rica	78
Cuba	70
Dominican Rep.	41
Ecuador	24
El Salvador	26
Guatemala	17
Guyana	10
Haiti	16
Honduras	56
Jamaica	6
Mexico	72
Nicaragua	23
Panama	34
Paraguay	36
Peru	18
Trinidad & Tobago	60
Uruguay	56
Venezuela	28
MIDDLE EAST & NORTH AFRICA	**25**
Algeria	16
Egypt	83
Iran, Islamic Rep.	31
Iraq	51
Jordan	47
Kuwait	10
Lebanon	10
Libyan Arab Jamahiriya	10
Morocco	44
Oman	19
Saudi Arabia	43
Syria	31
Tunisia	50
Turkey	0
United Arab Emirates	13
Yemen	6
Yemen, Dem.	10
AFRICA SOUTH OF THE SAHARA	**15**
Angola	12
Benin	26
Botswana	46
Burkina Faso	15
Burundi	30
Cameroon	22
Central African Rep.	15
Chad	2
Congo	2
Côte d'Ivoire	4
AFRICA SOUTH OF THE SAHARA (continued)	
Ethiopia	23
Gabon	7
Ghana	36
Guinea	1
Kenya	26
Lesotho	68
Liberia	9
Madagascar	2
Malawi	42
Mali	3
Mauritania	2
Mauritius	4
Mozambique	14
Namibia	0
Niger	24
Nigeria	20
Rwanda	24
Senegal	9
Sierra Leone	31
Somalia	12
South Africa	0
Sudan	25
Tanzania	14
Togo	19
Uganda	5
Zaire	10
Zambia	59
Zimbabwe	26
ASIA	**23**
Afghanistan	11
Bangladesh	26
Bhutan	40
China	5
Hong Kong	0
India	23
Indonesia	72
Kampuchea	6
Korea, Dem.	0
Korea, Rep.	0
Laos	20
Malaysia	11
Mongolia	59
Myanmar	21
Nepal	23
Pakistan	42
Papua New Guinea	20
Philippines	24
Singapore	0
Sri Lanka	40
Thailand	30
Viet Nam	50
INDUSTRIAL COUNTRIES	
No data available	

Source: WHO/CDD/89.31, "Programme for control of diarrhoeal diseases." Interim Programme Report 1988.

* Percentage of all cases of diarrhoea in children under five years of age treated with oral rehydration therapy. Figures for country groupings are median values.

Acute respiratory infections in children

In brief

The Goal: To reduce by 33 per cent the deaths due to acute respiratory infections in children under five years.

Each year, acute respiratory infections (ARI), one of the three leading causes of death in children under five, claim the lives of over four million young children. Most of these deaths could be prevented simply through earlier diagnosis and low-cost treatment, and through immunization programmes to prevent diseases such as measles and whooping cough.

In the industrialized world, pneumonia is a relatively rare childhood respiratory illness. But in developing countries, where malnutrition and low birth weight are prevalent, large numbers of children under five develop pneumonia and die from it. Children in developing countries are up to 20 times more likely to die from pneumonia than are children in the industrialized world.

Studies have proved that correctly managing the care of ARI can reduce the rate of pneumonia-related child deaths by as much as 70 per cent. A world that spends millions of dollars on largely ineffective cough and cold remedies cannot afford to ignore comparably low-cost programmes that produce such dramatic results.

ARI is one of the three leading killers of infants and children in the world. Every year, two billion young children suffer some kind of acute respiratory infection. While many of these are self-limiting viral illnesses, such as coughs and colds, a substantial proportion are life-threatening, particularly in the developing world. Of the estimated 14.6 million deaths among children under five years of age each year, about 30 per cent are due to ARI.

Pneumonia accounts for most ARI deaths, taking the lives of four million children, mostly in developing countries, annually. In fact, pneumonia develops in many children when they get respiratory infections, largely because of the prevalence of the two major risk factors—low birth weight and malnutrition. And pneumonia can claim the lives of its victims quickly, often within five days of the onset of symptoms. The risk is greatest to infants under two months of age.

Cough and cold remedies are the single largest drug expenditure in most countries around the world. While a few provide symptomatic relief, most are largely ineffective and unnecessary in respiratory infections, and sometimes can even be toxic in children.

The two major strategies of correct case management and immunization, however, can substantially reduce the deaths due to pneumonia.

Managing care correctly

Studies in India, Indonesia, the United Republic of Tanzania, Pakistan, Nepal, and the Philippines demonstrate the success of correct case management in cutting the rate of child deaths from pneumonia by as much as 50 to 70 per cent.

Correct case management, a central strategy in reducing mortality from ARI, involves early recognition of the signs of pneumonia, by families or other caretakers, followed by the seeking of care from a trained health worker, and finally appropriate treatment by that worker.

It is also important for community health workers, who are often the first point of contact with sick children, to recognize cases of pneumonia and refer them for treatment.

Rapid breathing rate is one of the key warning signs of pneumonia. Parents can be helped to recognize changes in respiratory rate and other signs of pneumonia, and learn to take a child who exhibits them to a clinic or a community health worker.

Health workers can look for diagnostic signs such as chest wall indrawing, observe a child's breathing, and count the breathing rate. If a child is under two months of age and is taking more than 60 breaths a minute, the danger is life-threatening. For children between two months and two years old, danger is indicated by a breathing rate of 50 breaths a minute. For children between two years and five years old, 40 inhalations a minute is the crucial sign.

Health workers can then treat the respiratory infection. The specific care given will depend on the serverity of the case and the age of the child, very young infants requiring special treatment.

Immunization

Immunization, the second important strategy to lower the ARI toll, can help prevent the respiratory infections in children that are caused by pertussis, measles, and diphtheria. Over a third of all ARI-related deaths in developing countries are caused by these three diseases. Immunizing children against these diseases is a key component of the Expanded Programme on Immunization (EPI).

Putting ARI programmes into effect

For the most part, national programmes to control ARI are just getting underway. Emphasis now is on developing sound national policies and plans of action, phasing programmes appropriately, and developing effective training strategies. Attention needs to be given to the following as national programmes are further developed:

- Ensuring that antibiotics are used appropriately. They should not be used to treat simple coughs and colds. At the same time, the inappropriate use of cough and cold remedies needs to be discouraged.
- Improving communication so that parents and health workers understand each other and the illness. Parents (or other caretakers) need to understand the importance of obtaining rapidly from a trained health worker the right therapy (antibiotics) for the right children (with pneumonia), for the right duration (five days).
- Educating parents and other caretakers on home care of simple coughs and colds, how to recognize the signs of pneumonia, and where to go for help.
- Training health workers to recognize the signs and symptoms of pneumonia and how to treat it.
- Examining ways to prevent pneumonia through, for example, the better understanding of how specific risk factors may promote the development of pneumonia in young children. Once risk factors are more clearly understood, interventions can be developed to minimize their impact.

Research priorities for the 1990s

To improve methods of managing the care of pneumonia, a number of subjects need to be studied. For example, the clinical signs and agents of pneumonia among very young infants (less than two to three months old) is a top priority. WHO is organizing a multicentre study in several different countries to answer key questions in this area. The ability of different categories of health workers to diagnose and treat pneumonia is an area that needs to be studied. Clinical trials are also needed to determine whether antibiotic treatment of pneumonia can be simplified. Simple technologies to improve diagnosis and treatment—for example, 30-second and 60-second timers for counting respiratory rates, and oxygen concentrators—need to be tested and applied.

In addition, studies are needed to understand what parents and other caretakers know about the signs of pneumonia and which signs prompt them to seek help outside the home.

Prevention research could yield valuable insights into the impact of such risk factors as nutritional deficiencies, exposure to cold, and indoor air pollution from fuel and tobacco smoke. Field trials of potential vaccines to prevent the most common pneumonias in young children—specifically pneumonias caused by *Streptococcus pneumoniae* and *Haemophilus influenzae*—would be of particular value.

The cost of progress

The cost of providing correct treatment for ARI is not excessive. To deliver a full course of antibiotics for a case of pneumonia costs about $2. And to prevent a death from pneumonia—based on a case fatality rate of 4 per cent estimated by WHO—would cost an estimated $52, without hospitalization. If a child were hospitalized, then the cost to prevent death would be $72 per case.

Correct case management is a central strategy in reducing mortality from acute respiratory infections. It involves early recognition of the signs of pneumonia, by families or other caretakers, followed by the seeking of treatment from a trained health worker, and finally appropriate treatment by that worker.

The costs of not moving aggressively to control ARI are harder to quantify. They are, however, devastating to children, families, and to struggling nations. ARI accounts for 30 per cent to 50 per cent of the visits by children to treatment facilities and between 30 per cent to 40 per cent of hospitalizations. An episode of pneumonia, even if not fatal, can seriously affect a child's health and resistance to other infections. Parents or other caretakers must interrupt other activities to care for the child, and may spend often scarce resources on unnecessary and sometimes toxic drugs. And hospitalizing a child costs between $l5 and $25 per day in most countries, a tremendous strain on national resources.

For the first time in history, pneumonia, one of the most serious causes of child deaths, can be treated inexpensively and effectively by health workers in a wide range of settings. Controlling ARI among young children, however, is not easy. Even more than with many other interventions, effective national programmes depend on functioning health systems, regular supplies of drugs, extensive training efforts, effective referral systems, and close monitoring and supervision. The challenge is enormous and high-level political support and commitment will be necessary to meet it. With four million children succumbing to pneumonia each year, however, action is long overdue.

Further reading

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Child spacing

In brief

The goal: Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late, or too many.

Women in the developing world who have many children in quick succession place themselves and their children at enormous risk. Child bearing patterns–maternal age, birth order, and the interval between births–have an important influence upon the probability that a child will survive infancy and early childhood. Birth or child spacing has a particular significance for child survival. Studies show that when the length of time between two births in a family is less than two years , the new-born, on average, is twice as likely to die in infancy as might a child born after a longer birth-interval. This applies not only to the first year of life, but adversely affects the child's survival chances for at least the first four years of life. Babies born after a three-to-four year interval have the best chances of survival.

The problem

Among the causes of infant and child deaths, children born as a result of pregnancies categorized as "too young, too old, too frequent, or too many" constitute high risks for deaths. And for every child who dies, there are many more who are weakened or handicapped.

Child bearing patterns, such as maternal age, birth order, and the interval between births have an important influence upon the probability that a child will survive infancy and early childhood. Recent world fertility surveys have contributed an impressive amount of comparative data from developing countries which reconfirm the significance these relationships, particularly birth spacing or child spacing, have as key factors contributing to child survival. Studies have also shown that the length of time between two births in a family (the "birth interval") greatly influences survival of both children. When there is a short birth interval, both have a much greater chance of dying than do children with a longer birth interval.

When the birth interval is less than two years, the pregnancy outcome is more hazardous. Short birth intervals are associated with higher rates of foetal, infant and child mortality, particularly high if the inter-birth period is shorter than a year. In developing countries, children who are born after a birth interval of less than two years are, on average, twice as likely to die in infancy as are children born after a longer interval. Too short an interval between births not only raises an infant's chance of dying during the first year, it adversely affects the child's survival for at least the first four years of life. Such children have a 50 per cent greater risk of dying between the ages of one and four than do children born after a longer birth interval.

It has long been known that a child who is shortly followed by another suffers the consequences of short spacing. Indeed the name of the serious nutritional disease "Kwashiorkor" originates from Ghana, where it means the sickness of a suckling child when the next one is conceived.

Data from numerous WHO collaborative studies indicate that in most communities babies had the best chance to survive infancy when they were born after a three-to-four year interval. When the birth interval is longer than five years, the chances of surviving infancy again become poorer.

It is interesting to note that these phenomena appear to hold true for families irrespective of the wealth or poverty of the family, level of maternal education, rural or urban habitat.

Impact

Thus, in some countries, the length of inter-birth interval has an enormous effect on infant mortality. According to studies in some 25 countries, reduction of infant deaths would range from 5 to 40 per cent, with an average of about 10 per cent, and deaths of children aged between one and four would be reduced by 25 per cent.

In addition to the birth interval and birth order, a third family formation factor influences child health and survival – maternal age at birth. And again, the effect is not confined to the developing countries. While the level of infant mortality in Britain has dropped sharply during the eighties, the relationship between maternal mortality and maternal age has not disappeared. Furthermore, in-depth studies in the United Kingdom have found that the effects of birth order and maternal age are apparent in every social class, although environmental factors are obviously important.

There is also some evidence that length of birth interval also has a bearing on the well-being of the children who survive. Malnutrition, for example, has been found to be more common in a number of countries among children born after short intervals. Premature termination of breastfeeding that typically occurs when conception follows in too a short time contributed to the inadequate nutrition of the weaned child. Birth spacing is therefore an essential part of maternal and child health and primary health care. There are many ways to space child births – some traditional, some modern.

Traditional and modern methods

Of the more than 42,000 women from Latin America, North Africa, and Asia who were interviewed in a WHO study, more than nine out of ten said that short birth intervals were harmful to child health. In many societies in sub-Saharan Africa, there are long-standing traditions of spacing child births for health reasons. For example, Nigerian and Togolese women say that a birth interval of more than two years is healthiest. In Zimbabwe, it is said that children born too close together "burn" each other.

People have been spacing child births for thousands of years through withdrawal, abstinence, and breastfeeding. In recent years, a great deal of attention has focussed on breastfeeding, which has the dual advantage of protecting the health of young children and delaying the return to fertility of new mothers. The relationship between lactation and postpartum amenorrhea is well known; the longer and more extensively a mother breastfeeds, the longer she is protected against pregnancy, although this protection decreases over time. WHO studies have demonstrated a clear relationship between the length of time a woman breastfeeds and birth intervals. The significant relationship between breastfeeding and child spacing needs, however, further study, and from the individual's point of view, it is not considered to be a reliable method of contraception.

> **Data from numerous WHO collaborative studies indicate that in most communities babies had the best chance to survive infancy when they were born after a three-to-four year interval... It is interesting to note that these phenomena appear to hold true for families irrespective of the wealth or poverty of the family, level of maternal education, rural or urban habitat.**

In modern societies, various means of family planning to space child births are available. They must be made accessible and available in accordance with the religious, social, and cultural practices of the concerned society.

Much of what we know about the impact on children of spacing, timing, and number of births is based on the associations with mortality described above. We also know, however, that mortality is only the tip of the iceberg. Excessive deaths among children born into large families, among children born too close together, or among children born to teenage mothers are a clear indicator that infection and illness are also more common in these groups.

The evidence of a relationship between birth interval and child survival is thus strong and growing. In addition, a great many studies in both the developed and developing countries have shown that the total number of children in the family also significantly affect child survival and child health. For example, the proportion of births which result in low-birth-weight infants increases after the second or third birth. Low-birth-weight infants (weighing

2,500 grams or less at birth) are both more likely to die during the first year and to have more health problems than do other children if they survive.

We know thus that poor birth spacing is dangerous to children's health, and we know what to do about it. A principal challenge remains – to make appropriate services easily accessible, according to prevailing norms and cultures, to everyone who wants to use them and to make information on the relationships of high risk pregnancies that are either "too early, too late, too frequent, or too many", known to couples, so that unnecessary deaths can be prevented and children can have a greater chance of survival and of healthier lives.

Further reading

Optimum Conditions for Childbearing, by George T.F. Acsadi and Gwendolyn Johnson-Acsadi. IPPF. 1986.

Family Planning and the Health of Women and Children, Report of a Meeting of the IPPF International Medical Advisory Panel and the IPPF Programme Committee. IPPF, 26 February 1986.

Birth Spacing and Child Survival Chartbook, by Deborah Maine, Regina McNamara, Marilyn Wallace, The Center for Population and Family Health, Columbia University, New York, 1986.

Facts for Life, UNICEF 1988.

CHILD SPACING

	Total fertility rate* 1988	Contraceptive prevalence ** (%) 1980-87
LATIN AMERICA & CARIBBEAN	**3.5**	**46**
Argentina	2.9	74
Bolivia	6.0	26
Brazil	3.4	66
Chile	2.7	43
Colombia	3.5	65
Costa Rica	3.2	70
Cuba	1.7	60
Dominican Rep.	3.7	50
Ecuador	4.6	44
El Salvador	4.8	70
Guatemala	5.7	23
Guyana	2.7	31
Haiti	4.7	7
Honduras	5.5	35
Jamaica	2.8	52
Mexico	3.5	53
Nicaragua	5.5	27
Panama	3.1	58
Paraguay	4.6	45
Peru	4.4	46
Trinidad & Tobago	2.7	53
Uruguay	2.6	
Venezuela	3.7	49
MIDDLE EAST & NORTH AFRICA	**6.0**	**26**
Algeria	6.0	7
Egypt	4.8	30
Iran, Islamic Rep.	5.6	23
Iraq	6.3	
Jordan	7.2	26
Kuwait	4.8	
Lebanon	3.3	
Libyan Arab Jamahiriya	6.8	
Morocco	4.8	36
Oman	7.2	
Saudi Arabia	7.2	
Syria	6.7	20
Tunisia	4.0	41
Turkey	3.5	51
United Arab Emirates	4.8	
Yemen	7.0	1
Yemen, Dem.	6.7	
AFRICA SOUTH OF THE SAHARA	**6.4**	**5**
Angola	6.4	1
Benin	7.0	9
Botswana	6.2	28
Burkina Faso	6.5	1
Burundi	6.3	9
Cameroon	5.7	2
Central African Rep.	5.9	
Chad	5.9	1
Congo	6.0	
Côte d'Ivoire	7.4	3
Ethiopia	6.2	2
Gabon	5.0	
Ghana	6.4	10
Guinea	6.2	1
Kenya	8.1	17
Lesotho	5.8	5
Liberia	6.5	6
Madagascar	6.6	
Malawi	7.0	7
Mali	6.7	5
Mauritania	6.5	1
Mauritius	1.9	75
Mozambique	6.4	4
Namibia	6.1	
Niger	7.1	1
AFRICA SOUTH OF THE SAHARA (continued)		
Nigeria	7.0	5
Rwanda	8.3	10
Senegal	6.4	12
Sierra Leone	6.5	
Somalia	6.6	
South Africa	4.4	48
Sudan	6.4	5
Tanzania	7.1	1
Togo	6.1	
Uganda	6.9	1
Zaire	6.1	1
Zambia	7.2	1
Zimbabwe	5.8	38
ASIA	**4.2**	**47**
Afghanistan	6.9	
Bangladesh	5.5	22
Bhutan	5.5	
China	2.4	74
Hong Kong	1.7	72
India	4.3	34
Indonesia	3.2	48
Kampuchea	4.7	
Korea, Dem.	3.6	
Korea, Rep.	2.0	70
Laos	5.7	
Malaysia	3.5	51
Mongolia	5.4	
Myanmar	4.0	5
Nepal	5.9	14
Pakistan	6.4	8
Papua New Guinea	5.7	4
Philippines	4.3	45
Singapore	1.6	74
Sri Lanka	2.6	62
Thailand	2.5	66
Viet Nam	4.0	20
INDUSTRIAL COUNTRIES	**1.7**	**73**
Albania	3.0	
Australia	1.8	71
Austria	1.5	71
Belgium	1.5	81
Bulgaria	1.9	76
Canada	1.6	73
Czechoslovakia	2.0	95
Denmark	1.5	63
Finland	1.6	80
France	1.8	79
Germany, Dem.	1.7	
Germany, Fed.	1.4	78
Greece	1.7	
Hungary	1.7	73
Ireland	2.5	
Israel	2.9	
Italy	1.4	78
Japan	1.7	64
Netherlands	1.4	76
New Zealand	1.9	70
Norway	1.7	71
Poland	2.2	75
Portugal	1.7	66
Romania	2.1	58
Spain	1.7	59
Sweden	1.6	78
Switzerland	1.6	71
United Kingdom	1.8	83
USSR	2.4	
USA	1.8	68
Yugoslavia	1.9	55

Source: The State of the World's Children 1990, Tables 5 and 7. (For explanations and qualifications to specific figures, see notes there.)

* The number of children that would be born per woman, if she were to live to the end of her child-bearing years and bear children at each age in accordance with prevailing age-specific fertility rates.

** Percentage of married women age 15-49 using contraception.

Figures for country groupings are median values.

Acquired immunodeficiency syndrome (AIDS) in children

In brief

Hundreds of thousands of children are born with human immunodeficiency virus (HIV, the AIDS virus) in developing countries each year as infected mothers unknowingly pass the infection on to their unborn children. A growing number of babies are also born HIV-infected in industrial countries. Sadly, most of these children become seriously ill with AIDS before their first birthday and die before their fifth birthday, the age when most healthy children are entering school. Tens of thousands of other children, particularly in Africa and the Caribbean, are orphaned as AIDS kills one or both of their parents.

In the few years since AIDS was first identified as a new disease, programmes have been initiated in nearly every country to prevent and treat HIV infection and AIDS. These programmes attempt to prevent the spread of HIV through education and ensuring safety of the blood supply; provide services for adults and children already affected; and research new vaccines and treatment drugs.

Developing nations already besieged by social and economic problems will find it particularly daunting to meet the challenges posed by HIV infection and AIDS. Global commitment is essential if programmes to prevent and treat AIDS that are currently operating—and the new ones needed—are to succeed.

Many countries in both the industrialized and developing world have been severely affected by the AIDS pandemic and have witnessed the resulting illness and death of large numbers of adults in their most productive years. AIDS, first identified in the early 1980s, is now a leading cause of death among women aged 15 to 45 in major cities in the Americas, Western Europe, and sub-Saharan Africa.

Many countries, particularly in parts of Africa and the Caribbean, have also seen large numbers of AIDS deaths among children under age five.

Children there are infected because of a number of factors: widespread heterosexual transmission of HIV among adults results in large numbers of HIV-infected women of reproductive age; a perinatal (mother-to-child) transmission rate of at least 30 per cent; and the lack of co-ordinated health services to assure the minimal use of blood transfusions and that blood that is transfused is first screened for HIV.

Magnitude of the problem

Epidemiologists agree that the numbers of reported cases of AIDS grossly underestimate the true situation, especially in developing countries where constraints to HIV testing and case reporting are particularly acute. Most HIV-infected adults progress to AIDS within ten years, and 25 per cent to 40 per cent of HIV-infected women transmit the infection to their offspring.

AIDS-related adult deaths result in large numbers of orphans...a recent UNICEF study of 10 AIDS-affected countries in Central and East Africa projects that, by the year 2000, there will be between 3 and 5 million AIDS orphans.

WHO estimates that as many as 1.5 million African women are infected with HIV. In Central and East Africa, infection rates among pregnant urban women have risen dramatically in the past five years, reaching 20 per cent to 25 per cent in some cities. So far, rates in most rural areas remain below 2 per cent, but given the large per cent of Africans residing in rural areas, the impact is nevertheless significant. In the Caribbean, over 10 per cent of all reported AIDS cases are occurring in children. One urban slum reports over 10 per cent of women of reproductive age are already HIV-infected.

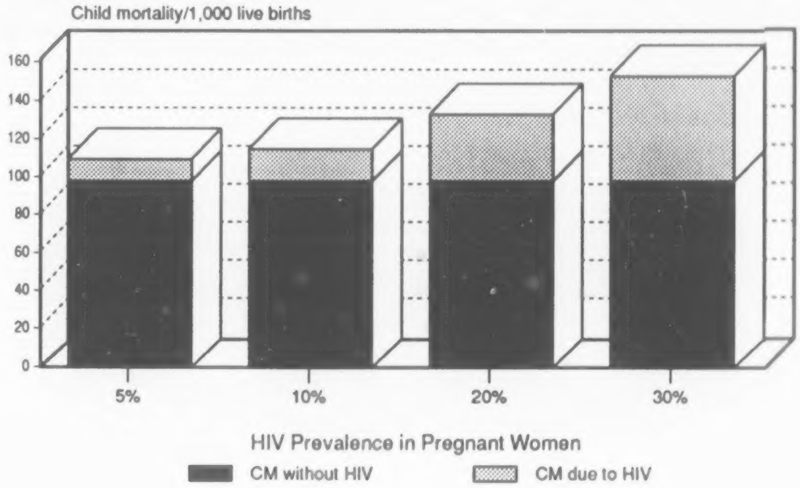
AIDS is also a growing threat in Asia, where self-injecting intravenous drug abuse and prostitution account for much of the HIV transmission. In one Southeast Asian nation, over 50 per cent of intravenous drug users have been infected with HIV in the past three years. Young women in Asia who practice prostitution before marriage risk infecting themselves and their future families.

The widespread cost to children

Children progress from HIV infection to AIDS much faster than adults. Symptoms of AIDS-related illness in children often appear as early as six months of age, and closely resemble common child health problems. But symptoms related to HIV infection do not respond to standard treatments. The intense needs of HIV-infected children for health care are already challenging over-burdened and under-financed maternal and child health services.

HIV-infection and AIDS are very real dangers for adolescents also. Since the interval between HIV infection and the appearance of AIDS in adults is long, many young adults with AIDS probably became infected during adolescence. Homeless adolescents are at especially high risk of HIV infection due to lack of AIDS-prevention education, and patterns of high-risk sexual behavior.

Projected increase in child mortality due to HIV/AIDS



Source: WHO/Global Programme on AIDS

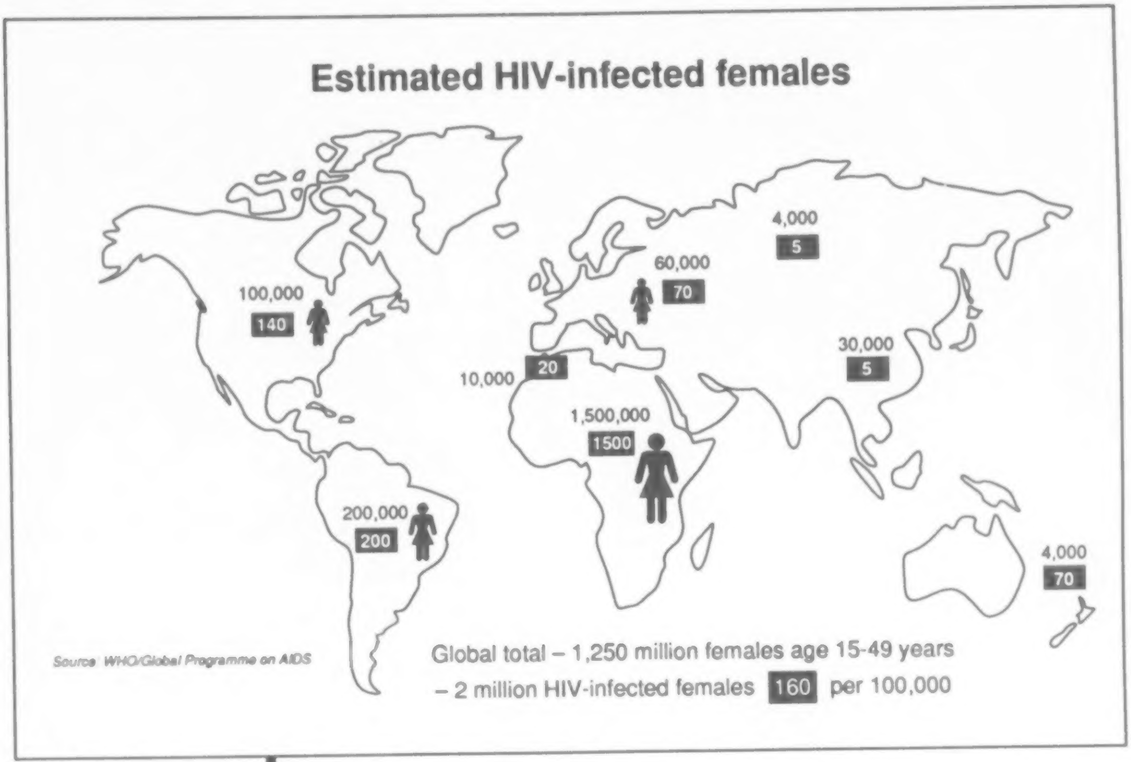
Impact of AIDS on mortality of children

WHO estimates that 80 per cent of all children who are born with HIV infection in developing countries will die from AIDS-related illness before the age of five.

In a country with an under-five mortality rate (U5MR) of 100 per 1,000 live births, where 5 per cent of pregnant women are HIV infected, the U5MR can be expected to increase to 109 per 1,000 live births due to AIDS. If 10, 20, or 30 per cent of women are HIV-infected in this country, U5MR can be expected to rise in a decade to 118, 135, and over 150 per 1,000 live births due to AIDS, respectively (see graph above).

Clearly, in developing countries that are seriously affected by AIDS, the disease will seriously impair the potential for reducing infant and child mortality.

WHO estimates that more than 1,500,000 African women are already infected with HIV (see map on following page). Because the vast majority of HIV-infected infants are infected perinatally, preventing HIV infection in women is the key to reducing HIV infection in infants.


Estimated HIV-infected females

Source: WHO/Global Programme on AIDS

Global total – 1,250 million females age 15-49 years
– 2 million HIV-infected females **160** per 100,000

Impact of AIDS on family structure

Diagnosis of HIV infection or AIDS in an infant is often the first indication that one or both parents are infected with HIV. When an infected parent falls ill with AIDS, the fabric of the family is strained economically (due to loss of income and costs of treatment) and psychologically. The impact is often exacerbated by discrimination resulting from the stigma associated with AIDS.

In many countries, AIDS-related adult deaths result in large numbers of orphans (most of whom are *not* themselves HIV-infected). In one seriously affected district of Uganda, nearly 30,000 AIDS orphans have already been enumerated. A recent UNICEF study of 10 AIDS-affected countries in Central and East Africa projects that, by the year 2000, there will be between 3 and 5 million AIDS orphans. Such large numbers of orphans will strain the ability of the existing extended family system to adopt them, and will require new forms of long-term child care.

The high price of ignorance

The costs of AIDS to families, communities, and national economies are already extremely high; however, the costs which will result if massive aids prevention programmes are not undertaken will certainly be higher. AIDS resource mobilization meetings, organized by WHO, have raised funds from governments and foreign donors for AIDS control activities in developing countries. Unfortunately, present programme needs far exceed available resources. In terms of treatment, for example, the cost of providing AZT (the newly developed aids treatment drug) to one AIDS patient for a year is several thousand times the per capita health budget of most African countries.

Research: a critical need

In addition to expanding AIDS prevention strategies, the ultimate solution to AIDS control lies in developing effective treatment and a vaccine against HIV. In addition, technology designed for adults has to be adapted to the needs of children, and must be made as widely available and affordable as possible, especially in developing countries. Until these goals are realized, prevention must take the major role.

Present and future strategies

National and international AIDS control programmes, non-governmental and voluntary organizations, and public and private concerns have launched important efforts in AIDS prevention, education, and research worldwide. These multisectoral endeavors form the Global AIDS Strategy. WHO is the lead agency for AIDS in the United Nations system, and UNICEF and other parts of the United Nations system are playing an important role in supporting these efforts.

Actions required to lessen the impact of AIDS on women and children fall into three main categories:

- Preventing HIV infection in adults through education about preventing sexual transmission and transmission through contaminated blood supplies, needles, syringes, and other skin-piercing equipment.
- Addressing the health, economic, social, and psychological needs of women and children already HIV-infected or suffering from AIDS.
- Researching the epidemiology of the disease and new strategies for diagnosis, treatment, and vaccine development.

As stated in the Declaration of the International Conference on the Implications of AIDS for Mothers and Children, held in Paris on 27-30 November 1989, the following efforts must be accelerated and intensified:

- ensuring recognition of the problem of HIV infection and AIDS, particularly as it affects women and children;
- supporting AIDS prevention including innovative, multifaceted health education programmes;

- providing women and children suffering from AIDS with necessary health and social services;
- preventing discrimination against people with HIV infection and aids;
- ensuring adequate and safe blood collection and transfusion services;
- making drug abuse prevention and treatment programmes available;
- supporting appropriate research on HIV infection and aids in women and children.

By endorsing and promoting such global responses, the World Summit on Children would declare its commitment to stopping the spread of HIV infection and AIDS throughout the world.

Further reading

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PART THREE:

Nutrition

Introduction

Malnutrition in its various forms—protein-energy malnutrition, nutritional anaemia, vitamin A deficiency, and iodine deficiency disorders (IDD)—contributes to about one third of the deaths of young children throughout the world. Because of its magnitude, its catastrophic impact on the survival and development of children and women, and the fact that it often results from crises that are international in character, malnutrition is one of the most pressing global problems today.

Freedom from hunger and malnutrition is a basic human right, and continued malnutrition into the next century is unacceptable. Extensive experience has shown, however, that the best way to address malnutrition problems is to find appropriate and feasible solutions at all levels—household, community, national, and international. The impact of these actions is then monitored to improve the next round of activities.

Nutrition should not be seen as a "sector," but as an outcome of processes in several sectors. Improved nutrition requires simultaneous efforts to ensure adequate household food security, control of diseases and sanitation, and adequate maternal and child care. None of those conditions is sufficient in isolation.

Societies fall short of meeting those three conditions for various underlying economic, social, political, or ideological reasons. Nutrition programmes must therefore address both the immediate and the underlying causes of malnutrition through a mix of short-term and long-term actions. For example, a project involving the mass distribution of vitamin A capsules could be used to promote income-generating projects for women that would have a long-term impact on family nutrition. Promoting breastfeeding at a global level could improve infant nutrition dramatically in the near future while ensuring a lasting impact on the health and survival of generations to come.

Growth monitoring is the best method of making malnutrition visible and measurable. Encouraging families and communities to keep records of children's height and weight can prompt local actions as well as provide governments with nutrition surveillance information to be used in designing wider strategies and policies.

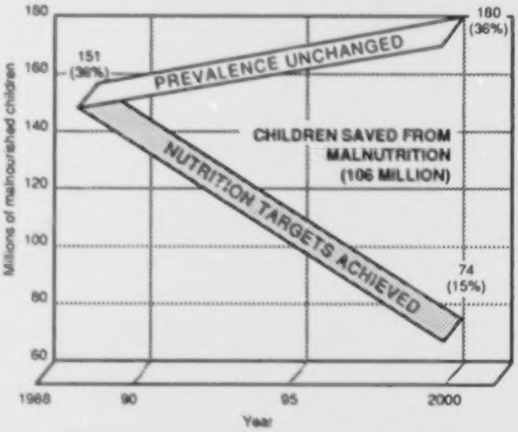
Reduction of malnutrition and low birth weight

In brief

The Goals: Reduction in severe and moderate malnutrition among under-five children by half of the 1990 levels. Reduction of the rate of low birth weight (less than 2.5 kg) to less than 10 per cent of annual births.

Malnutrition contributes to about one third of the more than 14 million young child deaths that occur worldwide each year. And, when girls and women suffer from disease and inadequate diet, their babies are born jeopardized by low birth weight, followed by growth faltering, resulting in wasting and stunting. Each year some 20 million infants–of which 95 per cent are in developing countries–are born weighing less than 2.5 kilograms. And, about 36 per cent of young children in those countries are underweight, and therefore run greater risk of disease, starvation, and death, in addition to diminished learning and work capacities in the future.

Prevalence of malnutrition* in children under five, developing world (excluding China)



The total under-five population of the developing world is projected to rise from 420 million in 1988 to an estimated 500 million in the year 2000.

* Malnutrition = more than 2 standard deviations below the desirable weight-for-age

Source: The State of the World's Children, 1990 Figure 10.

Malnutrition caused by inadequate dietary intake and disease is a serious threat to children's health and development in many parts of the world today. While South Asia has the highest percentage of malnourished children, Africa has the highest percentage of *severely* malnourished. In some countries, especially in Africa and Latin America, malnutrition has increased during the last few years, probably as a result of the present economic crisis or the structural adjustments being undertaken in response to it.

Recent reports estimate that in the developing world, excluding China, 150 million children under five are underweight and more than 20 million are severely underweight. Although these figures indicate the current severity of the problem, the existence of many more millions of stunted adults reveals that the problem of undernutrition has existed for many years.

Malnutrition threatens a child's development in many ways. Children often compensate for reduced energy by reduced activity. For a small child, that means cutting back on crawling, running, throwing, and other activities necessary for its development. For a school-aged child, food deprivation lowers attention and learning capacity. If undernutrition remains unremedied over a long period of time the affected children can suffer starvation and death.

Less obvious, but equally important, is the damage done by malnutrition to the child's immune system. Weakened by protein-energy deprivation, the child's immune system is less able to resist parasitic invasion and infectious disease. Malnourished children get sick more easily and run a greater risk of dying of a particular disease than do children who are well-nourished.

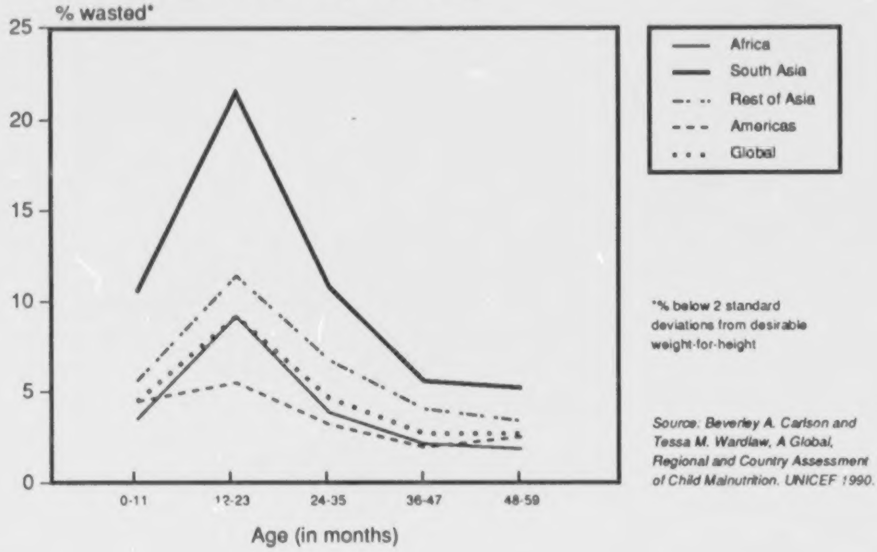
Children who are malnourished are also likely to suffer from micronutrient-deficiency diseases such as anaemia and vitamin A deficiency. Thus, the achievement of the goal of halving malnutrition will also contribute a great deal to achieving the goals set for reducing other dietary deficiencies.

In almost all developing countries growth faltering is most common and severe in children between the ages of 6 months to 18 months. Before then, breastfeeding normally provides adequate energy and nutrients. Deterioration beginning around the end of breastfeeding results from premature weaning, inadequate supplementary feeding, and infectious disease (see graph next page).

Those immediate causes of inadequate food intake are themselves brought about by a family's unreliable food supply, lack of access to needed health services, and inappropriate weaning and infant feeding practices. All point to the need for the mother to obtain control of resources and her own time.

For a lasting solution to the problem of malnutrition, the processes leading up to those causes must be traced and addressed. Those basic causes may be ecological, technical, social, economic, political, or ideological in nature.

Patterns of wasting by age



*% below 2 standard deviations from desirable weight-for-height

Source: Beverley A. Carlson and Tessa M. Wardlaw, A Global, Regional and Country Assessment of Child Malnutrition. UNICEF 1990.

Nutrition-oriented programmes

Although the problem of protein-energy malnutrition may seem complex, many countries are making progress in reducing its damaging effects on infants and young children. The key to success has been a combination of increased understanding of the problem and broad participation in designing interventions.

There is no one way of reducing malnutrition that can be used everywhere. The most important first step in improving any nutrition situation is to strengthen the capacity to find the cause of the problem at hand and to prepare the most relevant actions.

At that stage, information is crucial. Growth monitoring provides useful information to mothers and health workers, but can also give a government data that reflects not only the health and nutrition of the child, but also the situation of the child's family and environment. Food and nutrition surveillance at the national and subnational levels is useful both for advocacy and for designing policies and strategies.

Since malnutrition tends to begin in nearly all developing countries when breastfeeding ends, mothers should be encouraged and supported to breastfeed exclusively during a child's first four to six months of life. After that, proper supplementary feeding needs to be combined with continued breastfeeding well into the second year. Child-feeding practices must be viewed in the context of child care as a whole and in relation to mothers' need for greater control over resources.

Defining terms

Wasting is low weight-for-height. A child is wasted if the child's weight is significantly lower than expected for a given height. Wasting is taken as an indicator of current acute malnutrition.

In stunting, height is significantly lower than expected at a given age. Stunting can indicate either chronic malnutrition or episodes of acute malnutrition in the past.

A child is underweight if the weight is lower than expected at a given age. Underweight is the most frequently available composite indicator of both wasting and stunting, but it does not differentiate between them.

Once it is learned what is causing a particular case of malnutrition, a strategy for remedying it can be drawn up and carried out. Such immediate causes as inadequate food intake and disease can be addressed through nutrition rehabilitation, supply of essential drugs, promotion of oral rehydration therapy (ORT), and programmes to distribute micronutrients and emergency food.

Where health problems are the underlying cause of malnutrition, interventions such as immunization, improved delivery of primary health care (PHC), and health education including nutrition and family planning can be employed.

In cases of insufficient food security, a strategy can include efforts to improve food production, storage, distribution, marketing, and preparation. Child-care problems including inadequate feeding practices can be addressed through child-care arrangements, child-care education, and the promotion of proper weaning and child feeding.

However, sustained improvement cannot be achieved unless the basic causes of malnutrition are removed. While broad problems such as poverty, underdevelopment, and women's workload are difficult to address, action can be taken to improve policy analysis, promote income-generating activities for women, reduce income disparities within the society in question, transfer technology, and advocate constructive change. In all cases, access to appropriate information is crucial. Governments will therefore be encouraged and supported in establishing nutrition surveillance systems.

Nutrition strategy and costs

Estimates from various successful nutrition programmes show that the external cost per beneficiary varies from $5 to $50 per year; the higher estimates normally include the cost of programmes with direct food subsidies. These estimates do not include the support provided for the programmes from households and communities, which is often much larger and more important for children's survival and development than the external support.

With 150 million malnourished children in the world, the total estimated cost per year would be in the order of $750 million to $7.5 billion. Perhaps $2.5 billion might be used as a very rough overall estimate. In 1987, official development assistance provided $56 million (1.5 US cents per capita) for "direct nutrition" and another $1.8 billion in food aid.

The nutrition strategy to the year 2000 carries with it a number of needs in the area of research and development. For that reason, all programmes should include efforts to test hypotheses and to identify patterns. Methods must be found to ensure the early identification of disease and dietary patterns that could result in malnutrition. Likewise, simple methods are needed for determining how much food must be available in a community in order to ensure adequate dietary intake. It is essential that such methods of monitoring nutrition be simple enough for easy use by parents and health workers.

The achievement of the above goals could have implications far beyond children and malnutrition. Since the growth of children is influenced by social, economic, cultural, and ecological factors, monitoring the growth of children could provide a sensitive overall indicator of the success of a development strategy in achieving improvement in the human condition. Continued disparities between and within countries, of an indicator such as the height of children entering school, demonstrate that such development still has far to go.

Further reading

Strategy for Improved Nutrition of Children and Women in Developing Countries. A UNICEF policy review. UNICEF . New York. 1990.

Update on the Nutrition Situation: Recent Trends in Nutrition in 33 Countries. United Nations Administrative Committee on Coordination – Subcommittee on Nutrition January/February, 1989.

A Global, Regional and Country Assessment of Child Malnutrition, by Beverley A. Carlson and Tessa M. Wardlaw, UNICEF Staff Working Paper Number 7, 1990.

MALNUTRITION AND LOW BIRTH WEIGHT

	% infants with low birth weight*	% children underweight** (0-4 years) 1980-87		Daily per capita calorie supply as % of requirements
	1982-88	moderate & severe	severe	1984-86
LATIN AMERICA & CARIBBEAN	**10**	**13**	**3**	**108**
Argentina				136
Bolivia	12	15		89
Brazil	8	13	3	111
Chile	7	3		106
Colombia	15	12	2	110
Costa Rica	10	6		124
Cuba	8			135
Dominican Rep.	16	12	3	109
Ecuador	10	10		89
El Salvador	15	55	5	94
Guatemala	10	34	8	105
Guyana	11	22	4	108
Haiti	17	27	3	84
Honduras	20	21	4	92
Jamaica	8	9	2	116
Mexico	15			135
Nicaragua	15	11	1	110
Panama	8	16		107
Paraguay	7	32	1	123
Peru	9	13	2	93
Trinidad & Tobago		7		126
Uruguay	8	7	2	100
Venezuela	9	10		102
MIDDLE EAST & NORTH AFRICA	**7**	**N/A**	**N/A**	**125**
Algeria	9			112
Egypt	5	11	1	132
Iran, Islamic Rep.	5	43		138
Iraq	9			124
Jordan	5			121
Kuwait	7	6		
Lebanon				125
Libyan Arab Jamahiriya				153
Morocco		16	4	118
Oman	6			
Saudi Arabia	6			125
Syria		25	2	131
Tunisia	7			123
Turkey	8	12	1	125
United Arab Emirates	7			
Yemen		61		94
Yemen, Dem.	13	26		96
AFRICA SOUTH OF THE SAHARA	**14**	**32**	**7**	**92**
Angola	17			82
Benin	8	34		95
Botswana	8	15		96
Burkina Faso				86
Burundi	9	38	10	97
Cameroon	13	17		88
Central African Rep.	15	30	6	86
Chad	11			69
Congo	12	24	5	117
Côte d'Ivoire	14	40		110
Ethiopia		38		71
Gabon				107
Ghana	17	37		76
Guinea				77
Kenya	15			92
Lesotho	11	16	2	101
Liberia		35	4	102
Madagascar	10	33	8	106
Malawi	20	22		102
Mali	17	31	9	86
Mauritania	11	44	8	92
Mauritius	9	24	7	121
Mozambique	20	57	8	69
Namibia				
Niger	15	49		100
Nigeria	20			90
Rwanda	17	37	8	81

MALNUTRITION AND LOW BIRTH WEIGHT

	% infants with low birth weight*	% children underweight** (0-4 years) 1980-87		Daily per capita calorie supply as % of requirements
	1982-88	moderate & severe	severe	1984-86
AFRICA SOUTH OF THE SAHARA (continued)				
Senegal	11	22	6	99
Sierra Leone	17	23	3	81
Somalia				90
South Africa	12			120
Sudan		41	8	88
Tanzania	14	48	6	96
Togo	20			97
Uganda				95
Zaire	13	20	5	98
Zambia	14	28		92
Zimbabwe	15	12		89
ASIA	**9**	**38**	**N/A**	**105**
Afghanistan	20			94
Bangladesh	28	60	9	83
Bhutan				
China	5			111
Hong Kong	5			121
India	30	41	6	100
Indonesia	14	51	1	116
Kampuchea		20	3	98
Korea, Dem.				135
Korea, Rep.	6			122
Laos	39	37		104
Malaysia	10			121
Mongolia	10			116
Myanmar	16	38		119
Nepal				93
Pakistan	25	39	10	97
Papua New Guinea	25	35		96
Philippines	18	33		104
Singapore	6			124
Sri Lanka	28	38	9	110
Thailand	12	26	4	105
Viet Nam	18	52	13	105
INDUSTRIAL COUNTRIES	**6**	**N/A**	**N/A**	**130**
Albania	7			114
Australia	6			125
Austria	6			130
Belgium	5			146
Bulgaria	6			145
Canada	6			129
Czechoslovakia	6			141
Denmark	6			131
Finland	4			113
France	5			130
Germany, Dem.	6			145
Germany, Fed.	6			130
Greece	6			147
Hungary	10			135
Ireland	4			146
Israel	7			118
Italy	7			139
Japan	5			122
Netherlands				121
New Zealand	5			129
Norway	4			120
Poland	8			126
Portugal	5			128
Romania	6			127
Spain	1			137
Sweden	4			113
Switzerland	5			128
United Kingdom	7			128
USSR	6			133
USA	7			138
Yugoslavia	7			139

Source: The State of the World's Children 1990, Table 2.
(For explanations and qualifications of specific figures, see notes there.)

* Low Birth Weight: 2,500 grammes or less.

** Underweight: moderate and severe - below minus two standard deviations from median weight for age of reference population; Severe - below minus three standard deviations from median weight for age of reference population.

Figures for country groupings are median values.

Elimination of iodine deficiency disorders

In brief

> ***The goal: virtual elimination of iodine deficiency disorders by the year 2000.***

Lack of iodine in the soil, a common condition in mountainous and flood-prone terrain, robs the diet of all age groups of that essential element. About 1 billion people in the world are at risk of iodine deficiency disorders (IDD), 200 million to 300 million of them suffering from goitre or other obvious consequences. At least 6 million cases of idiocy (cretinism) and 20 million cases of mental retardation are attributed to iodine deficiency.

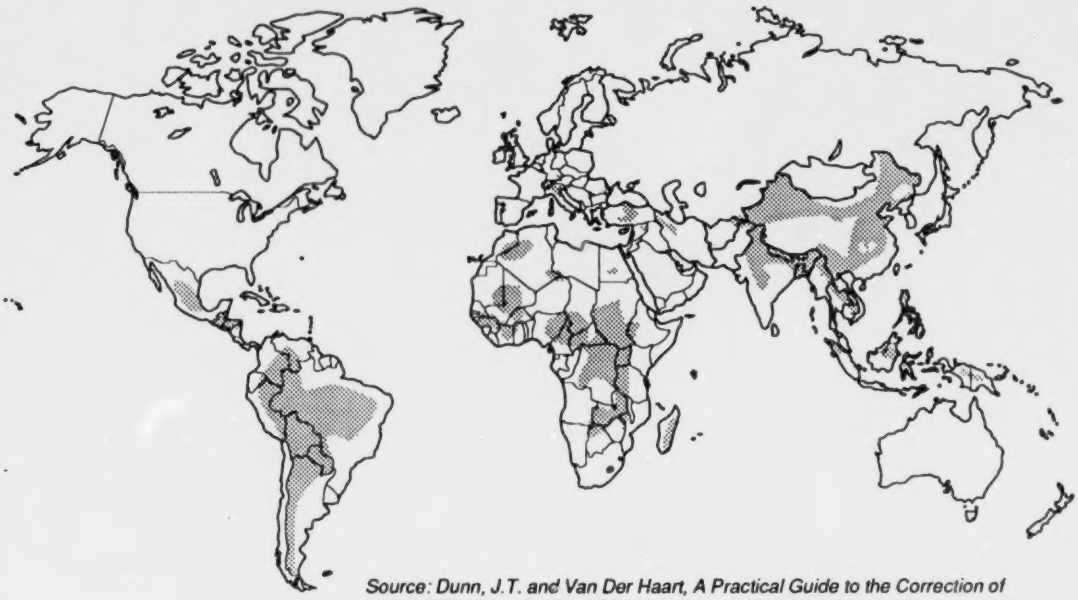
Iodine deficiency, the most common preventable cause of mental deficiency, has a major impact on child survival and development in all regions. The world could eliminate this age-old scourge.

The term iodine deficiency disorders (IDD) covers a wide range of conditions resulting from the lack of dietary iodine, an element needed for the production of hormones that regulate growth and development. While the most obvious consequences of deficiency are idiocy (cretinism) and gross swelling of the thyroid gland in the neck (goitre), insufficient iodine also lowers mental and physical capacity to varying degrees and in pregnant women can cause stillbirths and spontaneous abortions. Yet the virtual elimination of such disorders is the most feasible of the world's stated goals for children by the year 2000.

About 1 billion people of all ages are at risk of IDD. Regional estimates are as follows: Asia, 710 million; Africa, 230 million; Latin America, 60 million; Europe, 20 million to 30 million.

Of these, 200 million to 300 million have goitre or other demonstrable consequences of iodine deficiency, and at least 6 million are cretins. A total of 20 million people suffer some degree of mental retardation.

Areas of recent or continuing iodine deficiency



Source: Dunn, J.T. and Van Der Haart, A Practical Guide to the Correction of Iodine Deficiency. A joint publication of WHO, UNICEF, ICCIDD, 1990.

IDD threaten children's lives, health, and economic futures. Many of those who survive will be physically and mentally retarded. Children will exhibit apathy and lethargy, and will be less able to keep up with schoolwork. Their future economic productivity will be lowered. Allowed to persist unchecked, iodine problems lead to substandard communities and represent a serious obstacle to achieving national potential.

The underlying cause of iodine deficiency is a lack of iodine in the soil in which foods are grown. That is why deficiency disorders are found commonly in mountainous and heavily eroded areas and in places subject to frequent flooding. The shaded areas on the map above show where IDD are found. Many other locations, particularly in Africa and the Middle East, probably lack sufficient iodine in the soil, but have not yet been adequately surveyed.

Solving the problem

The long-term solution to the problem is to ensure that daily diets provide people with sufficient iodine. If populations become more affluent and if diets become more varied, including fish and foods produced in areas that are not lacking in iodine, the problem will gradually abate.

Iodine deficiency can be remedied more rapidly by adding iodine to people's existing diets. The most effective way to do this has been to add iodine to common salt, which is consumed by almost everyone. This requires the active co-operation of the salt industry.

Why has this simple solution not been more widely adopted? While a number of iodization programmes have encountered logistical and legislative obstacles, the fundamental reason they have not been pursued is that until recently, the gravity of iodine deficiency was not widely understood. Goitre was too often thought of chiefly as a cosmetic inconvenience, and many degrees of mental disability were not recognized. In addition, little attempt was made to educate officials and the public about the problem. Good intentions were not followed up, and there was no demand for services.

Establishing a system for iodizing all salt takes time. Meanwhile, iodine can be administered in oil, either by injection—with effects lasting for four or five years—or by mouth, capsule, or drops—with effects lasting for up to two years. This method immediately corrects iodine deficiency, increasing well-being and reducing goitre. Thus, it can be used to generate a demand for a more regular method, such as salt iodization.

The most obvious consequences of iodine deficiency are idiocy (cretinism) and gross swelling of the thyroid gland (goitre); insufficient iodine also lowers mental and physical capacity to varying degrees and in pregnant women can cause stillbirths and spontaneous abortions.

Administering iodine in oil may be a useful method for remote areas of a country where commercially prepared salt may not be available. Delivery would be through the primary health care (PHC) system, perhaps using the same channels that supply vaccine for immunization.

Adding iodine to the water supply is another possibility in some areas. The source—a capsule of concentrated iodine—needs to be replaced once a year.

Ways to eliminate iodine disorders

Programmes aimed at eliminating iodine deficiency should include both long-term (salt iodization) and short-term (iodized-oil administration) measures. Both approaches require efforts to inform people of the benefits of iodization and to sustain their support, in addition to whatever legislation may be needed to regulate the salt industry.

It is essential to monitor the programme to ensure that the desired level of iodine is maintained in salt production and that iodine measured in urine and thyroid hormones remains within normal levels. Unless vigilance is maintained, iodine deficiency problems may reappear.

A programme's success

How iodine programmes can contribute to national development is well illustrated by the experience of the village of Jixian in north-east China. In 1978, 65 per cent of the village's 1,313 inhabitants had goitre and 11 per cent were cretins. Because of the high rate of severe cretinism, the village became known locally as the "village of idiots."

The economic development of the village was retarded—for example, no truck driver or teacher was available. Girls from other villages did not want to marry boys from Jixian or live in the village. The intelligence of the local school children was known to be low: children aged 10 had a mental development equivalent to seven-year-olds elsewhere.

Iodized salt was introduced in 1978, and in 1979 iodized oil injections were given to children and young women. The goitre rate dropped to 4 per cent by 1986 and no cretins have been born since 1979. The people of Jixian have adopted a more positive attitude since iodization. The average income increased from 43 yuan per capita in 1981 to 550 yuan per capita in 1986. Before iodization no family had a radio, but in 1986 76 families had television sets. Between 1979 and 1986, 55 girls came from other villages to marry Jixian boys.

Cost of eliminating iodine deficiency

A salt iodization programme is particularly sustainable because the cost of treating the salt with iodine can be absorbed by the industry or passed to the consumer through a slight price increase. Where iodized oil or water treatment seems needed, a community will be willing to finance the intervention after the benefits of such a project are perceived. A national government would have to provide funds for communications and monitoring. External assistance could be especially useful in providing foreign exchange for purchasing the necessary iodine compounds.

Research is required to determine the most effective application of methods already tested. This includes operational studies of iodized oil administration, the monitoring of iodine deficiency control programmes, and better documentation of the benefits of such programmes to people who lack sufficient iodine.

The virtual elimination of IDD is one of the most feasible of the world's goals for children. National leaders of countries where iodine deficiency is a problem could commit their governments to establish co-ordinating mechanisms to set national targets and to pursue them relentlessly.

Further reading

The Story of Iodine Deficiency, by Basil S. Hetzel. Oxford Medical Publications. 1989.

A Practical Guide to the Correction of Iodine Deficiency Disorders, by John T. Dunn and Frits van der Haar. ICCID (International Council for Control of Iodine Deficiency Disorders), UNICEF, WHO. 1990.

Elimination of vitamin A deficiency and resulting blindness

In brief

> ***The Goal: The virtual elimination of blindness and other consequences of vitamin A deficiency.***

About 40 million of the world's children suffer from vitamin A deficiency, the leading cause of blindness in children under five years, resulting in 350,0000 cases of blindness each year, as well as causing lesser degrees of impaired vision in many more children. However, the means to eliminate this problem at modest cost are well known.

Vitamin A deficiency, in addition to being the major cause of blindness in young children, is also a major cause of death. Of the approximately half million children becoming blind each year, 70 per cent–350,000–suffer that fate due to vitamin A deficiency. About 60 per cent of newly blind children die within one year.

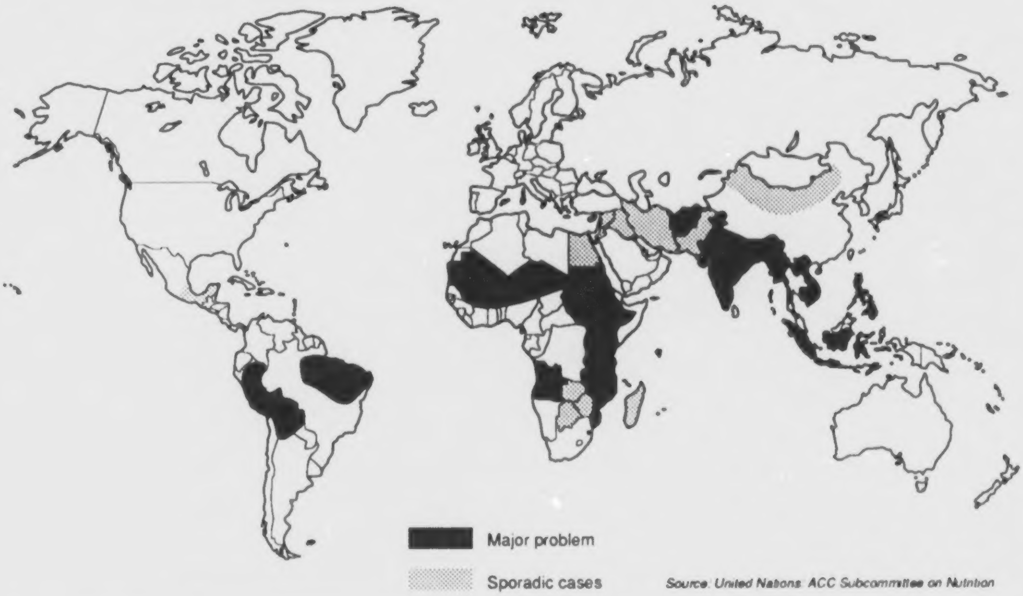
Milder degrees of deficiency that do not cause blindness nevertheless diminish the body's capacity to cope with infection and therefore contribute to child mortality. Vitamin A deficiency also retards growth.

The underlying cause of vitamin A deficiency is an inadequate store of this micronutrient in the body, whether the result of low dietary intake, interference with its absorption or transport within the body, or excessive loss. Other dietary constituents, especially protein and fat, are involved in the absorption and transport of vitamin A, and infectious diseases, notably measles, can result in a loss of the vitamin and ultimately deficiency.

An estimated 40 million children under five years of age suffer from vitamin A deficiency, many of them afflicted with varying degrees of the eye disease called xerophthalmia.

Not only does vision loss cause much human suffering, but it means lower productivity in the home, school, and workplace, and burdens resources for special training and compensation.

The geographical distribution of xerophthalmia in 1986



Source: United Nations ACC Subcommittee on Nutrition

A number of strategies have proven effective in combatting vitamin A deficiency. The long-term solution is to stimulate demand for foods containing vitamin A so that they are produced and consumed in adequate amounts. The vitamin is found in the compound retinol in some foods of animal origin (milk, butter, eggs, and liver, for instance) and in carotene in a variety of plant foods (yellow maize, red palm oil, carrots, cassava leaves, spinach, papaya, and mangoes, for example).

Improving the overall quality of the diet and making efforts to control infection, taking into account the community's overall needs, are also part of solving the deficiency. Fortification of foods with vitamin A, another possibility, is currently more common in developed than developing countries.

In the short-term, diet can be supplemented with vitamin A oil administered by dispenser or capsule. The nutrient is stored in the liver, so that a "high-dose" capsule provides enough for up to six months. Smaller doses can be given more frequently. Delivery must be carefully monitored, because too high a dose can be dangerous, especially to pregnant women. Programmes to combat vitamin A deficiency should ideally combine long-term and short-term measures.

Ways to reduce vitamin A disorders

Governments can act to eliminate vitamin A deficiency through a number of low-cost interventions. Since breast milk (including the initial secretion, colostrum) is such an important source of vitamin A for infants, breastfeeding should be encouraged for two years or more.

Educating people about nutrition through face-to-face counselling with health workers and through mass media campaigns could promote increased use of vitamin A foods and other dietary improvements. Small-scale vegetable gardening should be encouraged, and in some communities commonly used foods such as sugar can be fortified with vitamin A.

Not only does vision loss from vitamin A deficiency cause much human suffering, but it means lower productivity in the home, school, and workplace, and burdens resources for special training and compensation.

Dietary supplements should be provided through a primary health care (PHC)network that reaches people even in remote areas. High-dose supplements should also be available for rapid treatment of vitamin A-related eye conditions, as well as for administration to children with measles, severe diarrhoea, acute lower respiratory infections, and protein-energy malnutrition. Prevention and early treatment will reduce the body's requirement of vitamin A. All programmes will require monitoring, evaluation, and training components.

Costs of eliminating vitamin A deficiency

High-dose vitamin A capsules cost about 2 US cents each. Supplying the 150 million children who may need supplementation throughout the world would cost about $6 million per year. Delivery should be through existing PHC structures including channels set up for conducting immunization programmes.

Relevant nutrition education should be included in general child-care programmes, and as part of agricultural extension activities. Thus, efforts to eliminate vitamin A deficiency need not involve much additional financial cost, apart from training, educational materials, and monitoring costs. These might add a further $6 million per year. Including the expense of gardening supplies so families can grow vitamin A-rich foods now lacking in their diets, the total would be unlikely to exceed $20 million per year.

Such programmes could be primarily funded within health and agriculture budgets, with some degree of community financing. External assistance can be used to provide supplements in the short term, training and monitoring facilities, and the establishment of garden nurseries.

Field research will be needed to develop simple ways of checking vitamin A status, preferably in combination with that of other micronutrients.

Outlook for the future

The elimination of the major cause of blindness in young children as well as the reduction of other vitamin A-related problems will enhance the creative capacity of the future generation and remove a current burden on the economy. National leaders should declare the continued existence of vitamin A deficiency unacceptable, and work to create international momentum on the part of governments and donor agencies to see the goal of eliminating vitamin A deficiency as entirely practicable.

Further reading

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Vitamin A Supplements: A Guide to Their Use in the Treatment and Prevention of Vitamin A and Xerophthalmia, prepared by a joint WHO/UNICEF/IVACG (International Vitamin A Consultative Group) Task Force. WHO. Geneva. 1988.

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Reduction of iron deficiency anaemia

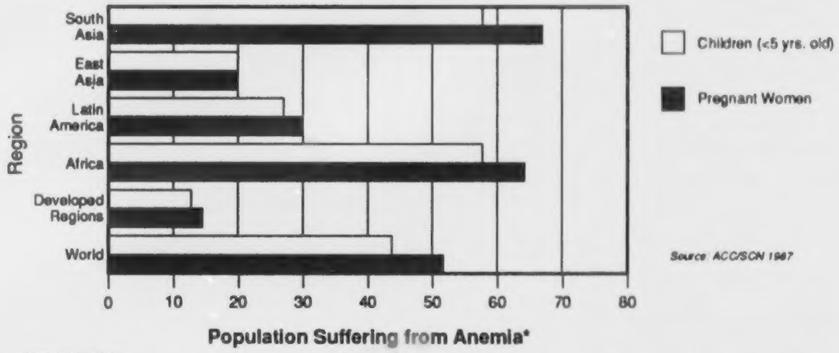
In brief

The Goal: Reduction of iron deficiency anaemia in women by one third of 1990 levels.

Iron deficiency anaemia, the most prevalent nutritional problem in the world, threatens the lives and health of pregnant women and their children, lowering physical activity, impairing learning ability, and leading to growth failure, behavioural problems, and reduced resistance to disease. An estimated 350 million women are affected worldwide.

Iron deficiency anaemia occurs when the concentration of haemoglobin in the blood is less than that needed to transport oxygen to body tissues. The result is impaired development, diminished work capacity, and reduced physical performance. Some 700 million to 800 million people are affected worldwide, half of them women. Because women in their childbearing years need more iron than men, their level of anaemia tends to be much higher.

Percentage of anaemia in children and pregnant women by region, around 1980



Source: ACC/SCN 1987

*excluding China

There is no single cause of this problem. The insufficiency may be due to inadequate iron in the diet, reduced ability to absorb ingested iron, increased need for iron (particularly during pregnancy), or chronic blood loss such as that caused by parasites. Many women in developing countries are iron deficient as a result of diets low in iron or the nutrients necessary for its absorption, such as vitamin C. And, the more often a woman becomes pregnant and gives birth, the more susceptible she is to anaemia.

Studies have shown that the cost of iron supplementation programmes is outweighed by the resulting increased labour productivity by approximately ten to one.

The consequences of iron deficiency include lowered physical activity and endurance, leading to reduced productivity and earning capacity; reduced resistance to disease; increased illness and death in pregnant women and their children; and growth failure and behavioural problems in infants and children.

In the long term, iron deficiency anaemia can be overcome by improvements in the standard of living, including the control of malaria and parasitic infections, and a more adequate and varied diet. Since many foods contain iron, iron deficiency can be greatly reduced by general efforts to combat protein-energy malnutrition. The fortification of foods may also be part of a long-term solution. In the short term, iron tablets can be administered to those most seriously affected by the deficiency, particularly pregnant women, and key dietary changes can be promoted to facilitate iron absorption.

There is mounting evidence that the reduction of anaemia enhances women's health and productivity and ultimately improves their children's physical and mental development. Studies in Indonesia, Kenya, and Mexico have shown that the cost of iron supplementation and fortification programmes is outweighed by the resulting increased labour productivity by approximately ten to one.

Ways to reduce the deficiency

Reducing iron deficiency anaemia requires a combination of measures including large-scale distribution of iron supplements, food fortification, and the control of parasitic diseases, as well as a concerted effort to promote changes in women's diet that would improve iron absorption.

In communities where iron deficiency is prevalent, daily supplements could be administered to pregnant women for up to four months, using existing health care channels such as village midwives. Including iron tablets in all essential drug kits supplied to urban and rural health centres is another tactic. Selected foods, such as flour, could be fortified with iron compounds at the point of manufacture. Salt could be fortified with iron as well as iodine.

Efforts to combat parasitic diseases could include improving sanitation and the water supply, and, where appropriate, encouraging people to wear shoes or sandals to prevent hookworm.

Women can be encouraged to improve their absorption of iron by consuming fruits and vegetables containing vitamin C at all meals and avoiding inhibitors of iron absorption, such as tea, with meals.

Evidence is mounting that the reduction of anaemia enhances women's health and productivity and ultimately improves their children's physical and mental development.

Cost of reducing iron deficiency

A supply of 250 iron tablets, enough for one woman over the course of a pregnancy, costs about 25 US cents. Supplies for worldwide supplementation programmes, without distribution costs, would amount to approximately $25 million per year. Food fortification costs about 30 US cents per person per year.

Further research is needed to find better forms of iron supplementation that will reduce side effects and increase participation. Ways of fortifying foods will have to be studied, and simple, inexpensive means of monitoring iron levels must be developed.

The major requirement to reach the goal of reducing anaemia in women by one third is commitment on the part of world leaders to strengthening national strategies to address the problem, particularly in pregnant women.

Further reading

Preventing and Controlling Iron Deficiency Anaemia Through Primary Health Care, by E.M. De Maeyer. WHO. Geneva. 1989.

Breastfeeding

In brief

> ***The Goal: Empowerment of all women exclusively to breastfeed their children for four to six months and to continue breastfeeding, with complementary food, well into the second year.***

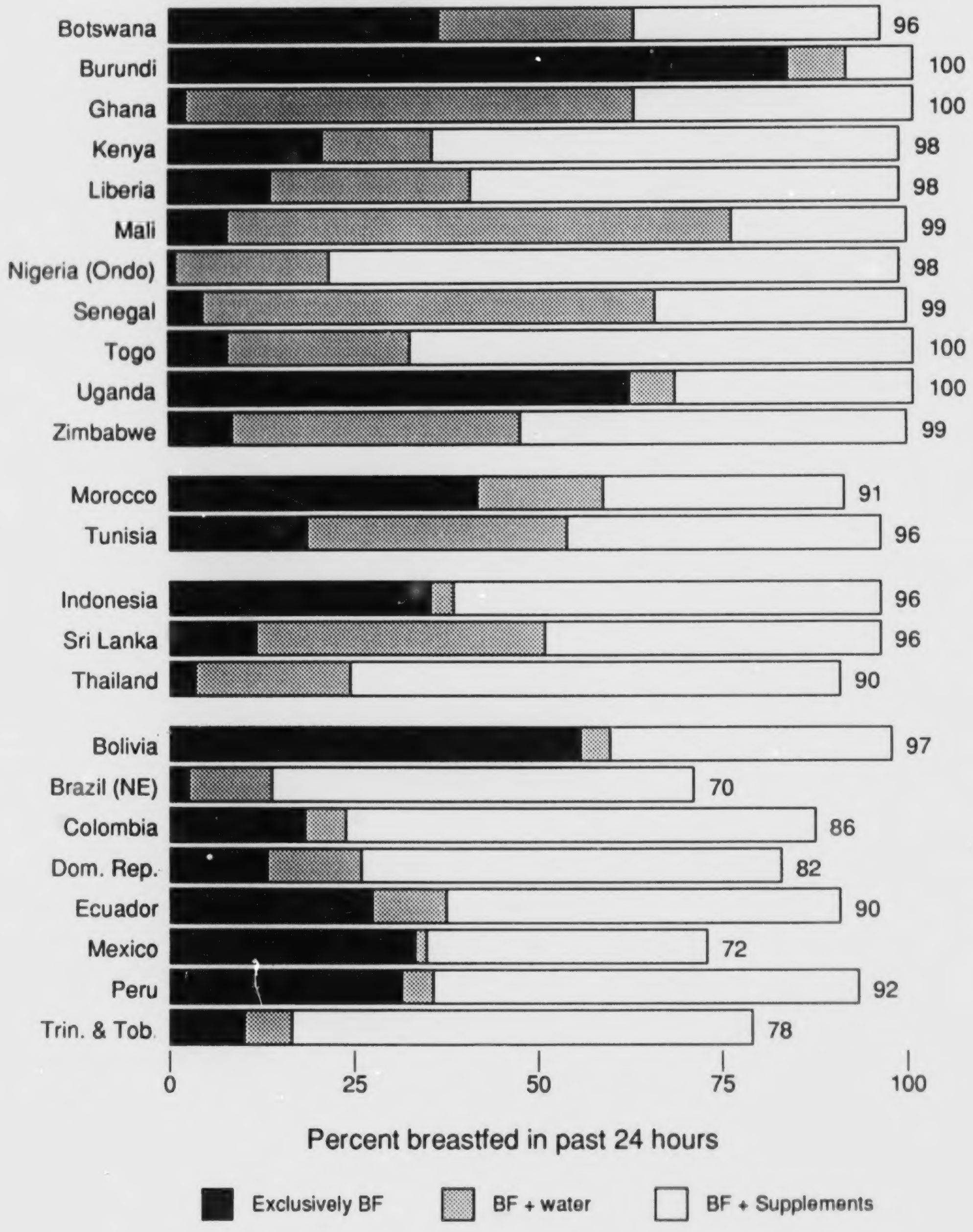
According to WHO reports, two thirds of the world's women who have given birth still breastfeed, at least to some extent. However, even where breastfeeding is common, as in most of Africa, infants are still being fed other foods and drinks in addition to breastmilk well before the recommended age of four to six months. Despite the overwhelming evidence in support of its inherent benefits, breastfeeding, as a practice, is in jeopardy. Vigorous pursuit of this goal is needed to reverse the trend.

The decline in breastfeeding is the result of a combination of social factors, practices in health care facilties, and marketing strategies for breastmilk substitutes.

Social factors include family migration to urban areas with the consequent loss of traditional support structures (offset to some extent countries by mother-to-mother support systems); the education of mothers which, in developing countries, has meant that the more educated, "modern" woman breastfeeds less and for a shorter duration; increasing numbers of women working away from the home, a problem compounded by lack of child care services; the emergence of the "feeding bottle" as a status symbol; and myths and concerns about cosmetic damage from breastfeeding.

Practices in health care facilities that discourage breastfeeding include the separation of mother and baby at birth and during confinement; routine bottle feeding of newborns and delay in introducing babies to the breast; rigid feeding schedules; poor training of health workers when it comes to helping mothers breastfeed; and the promotion of bottle feeding by the health care system through the use of formula samples, discharge packs, and formula supply deals with commercial companies.

Percent breastfed by type of feeding pattern, infants 0-4 months



Source: Demographic and Health Surveys, 1986-1989

Social and economic consequences of the problem

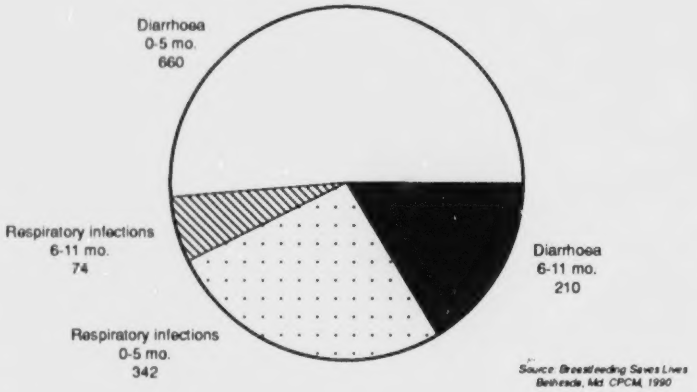
The decline in breastfeeding in the developing countries starts among educated urbanites, soon to be followed by the urban poor, before spreading outwards to the rural areas. In contrast, prevalence and duration have been increasing in such developed countries as Australia, Canada, New Zealand, Norway, Sweden, and the United States of America over the last 20 to 30 years. This suggests that the breastfeeding campaign of the 1980s has benefitted the developed countries more than the developing countries.

For the developing countries as a whole, breastfeeding, as an issue, continues to be a matter of life and death. According to a 1989 WHO estimate, the overall risk of death from *all* causes for nonbreastfed infants is approximately double that for infants who have been exclusively breastfed. It has also been estimated that improved breastfeeding practices could avert around 1.3 million infant deaths each year from diarrhoea and acute respiratory infections (ARI).

Impact of breastfeeding on annual infant deaths

(estimates in thousands)

Deaths averted, by cause of death



Source: Breastfeeding Saves Lives Bethesda, Md: CPCM, 1990

The victims of the decline in breastfeeding are the infants, who pay with their lives or with pain through frequent infections triggered by inappropriate or unhygenic use of formula substitutes, and their mothers, whose more frequent pregnancies, in the absence of the birth-spacing effects of sustained breastfeeding, impact negatively on their health and social and economic well-being. This aspect of breastfeeding is particularly crucial for the millions without access to family planning services or those who, for religious and cultural reasons, are unable or unwilling to use them.

Health considerations aside, an ongoing decline in breastfeeding carries with it some serious economic consequences. Breastmilk substitutes are expensive and replacing breastmilk with adequate amounts of formula to feed an infant can be unaffordable. A 1978 study in Indonesia calculated the cost of the extra food needed to produce sufficient human milk to feed an infant at about $1.62 per month, whereas the cost of sufficient infant formula for one month's feeding ranged from $16.87 to $56.25, depending on the brand. The 40 kilograms needed in Nigeria in 1990 to adequately feed an infant through its first year costs more than two-and-a-half times the annual minimum wage.

In countries where contraceptive use is not a regular practice, breastfeeding is a major factor in achieving birth intervals of up to 30 months. In the absence of breastfeeding, or a further decline in the practice, costs related to increased fertility and/or increased demand on family planning services would also jump.

Demand would also grow in the developing countries for curative health services to cope with the increased case-load of the more obvious infections such as diarrhoea, ARI and parasitic infections. Gains made in the last decade through other programmes tackling these problems would be jeopardized.

The overall risk of death from *all* causes for nonbreastfed infants is approximately double that for infants who have been exclusively breastfed.

Programme interventions

An environment of awareness and support must be created to enable women to breastfeed their infants exclusively from birth for at least the first four months of life (preferably for six months) and then continue breastfeeding for two years or longer with nutritionally adequate complementary foods.

Women must get more social support to enable them to fulfil their productive and reproductive roles. Child care, including the time needed to breastfeed, should be fully compensated as an acknowledged contribution to social and economic development. With this "recognition," such "benefits" as adequate maternity leave and workplace child care facilities would no longer be a matter of debate or considered "too costly."

Health care services, particularly maternity care, need to be remodelled to encourage rather than dissuade mothers from breastfeeding. Health education and training should be reviewed at all levels, and a system should be set up to equip every health worker with the lactation knowledge and breastfeeding management skills essential to support women and families.

The promotion of artificial feeding, particularly bottle feeding, should cease. This includes the promotion of formula, other baby foods, sugar water and vitamin drinks, and artificial feeding utensils. Making a product available for the few who require it is not the same as promoting its widespread use through the media, infiltration of the health care system, and other promotion tactics. In short, the promotion of breastfeeding should be left to the experts in breastfeeding, not manufacturers and distributors of baby foods.

Infant feeding practices are difficult to change, especially when the benefits are not immediately apparent to the mother and require continuous adherence. Social, cultural, and economic factors play a major role in shaping these practices. As a result, efforts aimed exclusively at changing the behaviour of individual mothers may be relatively futile. Informing mothers about the benefits of breastfeeding and appropriate weaning is not likely to produce major improvements on its own. The processes that lead to behavioural change must also be addressed.

The evidence shows that, with concerted effort, the negative trends can be reversed. Where breastfeeding has been consciously promoted in recent years, there have been improvements in feeding practices. If nothing else, promotion activities can stabilize the practice of breastfeeding and halt its decline. The most important promotion activities include:

- Improving hospital practices along the lines of the WHO/UNICEF joint statement on the special role of maternity services in protecting, promoting, and supporting breastfeeding, which includes a ten-step guide to successful breastfeeding, now the basis for country-level action initiatives by health workers and policy makers;

- Furthering developing country application of the demonstrably successful mother-support groups in developed countries by expanding similar activities in developing countries. These would boost counselling and community training skills in support of the strategy to promote growth and proper infant feeding practices, including breastfeeding;

- Stepping up breastfeeding promotional activities, which have proved very effective yet remain grossly underutilized, through the media;

- Regulating marketing practices through adopting legally enforceable national codes based on the International Code of Marketing of Breast Milk Substitutes, adopted by the 1981 World Health Assembly and now adopted in one form or another by more than 100 countries;

- Enforcing stricter control of the availability of supplies of formula in maternity wards and hospitals to improve rates of successful initiation of breastfeeding and ensuring that feeding bottles, teats, and pacifiers should no longer be acceptable in health care facilities, particularly in maternity wards, paediatric wards, "ORT corners," and baby clinics.

Some of the costs

Financial resources are needed to establish a lactation management and education and training system for health workers. Appropriate feeding and child-care practices must be promoted through the media. Where legislation covering adequate maternity leave, access to child-care services at the workplace, job security for mothers, etc., is implemented, labour costs will inevitably rise.

Opprotunities for the world

Developing countries cannot afford to go through the cycle experienced by developed countries, where breastfeeding, having virtually disappeared as a practice, has had to be relearned. Heads of State should declare as unacceptable an environment that makes it impracticable for mothers to choose to breastfeed. They should commit themselves to support the changes necessary to ensure that by the year 2000 all women are empowered to exclusively breastfeed their children for four to six months and thereafter to continue breastfeeding, augmented by appropriate complementary foods, up to the second year of life or beyond.

Further reading

Breastfeeding: The Passport to Life. Naomi Baumslag, ed. NGO Committee on UNICEF. New York. 1989.

"Protecting, Promoting, and Supporting Breastfeeding: The Special Role of Maternity Services." WHO. Geneva. 1989.

PERCENTAGE OF MOTHERS EITHER WHOLLY OR PARTLY BREASTFEEDING, 1980-87

	3 MONTHS	6 MONTHS	12 MONTHS
LATIN AMERICA & CARIBBEAN	**62**	**53**	**38**
Argentina	66	36	14
Bolivia			
Brazil	66	58	34
Chile	23	18	17
Colombia	80	55	36
Costa Rica	61	38	22
Cuba			
Dominican Rep.			
Ecuador	86	74	48
El Salvador	85	77	55
Guatemala		84	74
Guyana	62	38	22
Haiti		98	88
Honduras	48	28	24
Jamaica	95	82	43
Mexico	62	52	36
Nicaragua			71
Panama	62	53	53
Paraguay	80	77	49
Peru	80	67	37
Trinidad & Tobago	59	50	14
Uruguay	50	43	
Venezuela	50	40	30
MIDDLE EAST & NORTH AFRICA	**80**	**71**	**51**
Algeria			
Egypt	90	87	81
Iran, Islamic Rep.			
Iraq			
Jordan	80	70	50
Kuwait	47	32	12
Lebanon	50	40	15
Libyan Arab Jamahiriya			
Morocco	92	89	76
Oman	73	50	20
Saudi Arabia		91	52
Syria	88	72	41
Tunisia	95	92	71
Turkey	99	91	51
United Arab Emirates			
Yemen	73	67	29
Yemen, Dem.	80	60	55
AFRICA SOUTH OF THE SAHARA	**96**	**92**	**78**
Angola			
Benin	90	90	76
Botswana	96	93	73
Burkina Faso	98	98	97
Burundi		95	90
Cameroon	92	90	77
Central African Rep.			
Chad			
Congo	98	98	95
Côte d'Ivoire	87	84	78
Ethiopia		97	95
Gabon			
Ghana	91	90	72
Guinea	100	70	40
Kenya	86	82	67
Lesotho		87	
Liberia	96	92	70
Madagascar	95	95	85
Malawi			96
Mali	96		82
Mauritania	91	86	67
Mauritius	79	55	40
Mozambique	99	96	
Namibia		98	82
Niger	65	30	15
Nigeria	98	80	60
Rwanda	97	97	74

PERCENTAGE OF MOTHERS EITHER WHOLLY OR PARTLY BREASTFEEDING, 1980-87

	3 MONTHS	6 MONTHS	12 MONTHS
AFRICA SOUTH OF THE SAHARA (continued)			
Senegal	94	94	82
Sierra Leone	98	94	83
Somalia			
South Africa			
Sudan	91	86	72
Tanzania	100	90	70
Togo		99	90
Uganda	85	70	20
Zaire	100	100	86
Zambia			93
Zimbabwe	98	96	84
ASIA	N/A	N/A	N/A
Afghanistan			
Bangladesh	91	86	82
Bhutan			
China	70	60	
Hong Kong			
India			
Indonesia	98	97	83
Kampuchea	100	93	
Korea, Dem.			
Korea, Rep.	58	40	27
Laos		99	93
Malaysia	88		
Mongolia			
Myanmar			
Nepal	92	92	82
Pakistan		92	70
Papua New Guinea			
Philippines	79	70	53
Singapore			
Sri Lanka	94	92	81
Thailand	83	79	68
Viet Nam			
INDUSTRIAL COUNTRIES	N/A	N/A	N/A
Albania			
Australia	56	40	10
Austria	41		
Belgium			
Bulgaria			
Canada	53	30	
Czechoslovakia			
Denmark			
Finland		7	
France			
Germany, Dem.			
Germany, Fed.			
Greece			
Hungary	86		
Ireland			
Israel			
Italy			
Japan	72	52	
Netherlands	33		
New Zealand			
Norway			
Poland	32	25	
Portugal	29	12	7
Romania			
Spain			
Sweden	47	23	
Switzerland			
United Kingdom	26	22	
USSR			
USA	33	24	
Yugoslavia			

Source: The State of the World's Children 1990, Table 2.
(For explanations and qualifications of specific figures, see notes there.)
Figures for country groupings are median values.

PART FOUR:

Water and sanitation

Water and sanitation

In brief

> ***The Goals:** Universal access to safe drinking water by the year 2000. Universal access to sanitary means of excreta disposal by the year 2000.*

In the countrysides, cities, and peri-urban slums of developing countries, 1.2 billion people still lack access to safe water and 1.7 billion lack access to appropriate sanitation. The toll on individuals and societies is high: illness from water-borne and water-washed diseases, including diarrhoeal diseases, debilitates and kills many, particularly young children. And women and girls, who face the gruelling chore of fetching water in most cultures, spend time and energy they can ill afford, walking as much as five kilometres a day for water of questionable purity.

Although progress was made during the 1980s, it is estimated that the implementation rates for water coverage in the 1990s will have to increase by 1.5 to 2.5 times those of the 1980s in rural and urban areas respectively; rates for sanitation will need to increase 3 to 4 times those of the 1980s in urban and rural areas respectively.

The political will to address the problem is needed. Additionally, resources must be reallocated from high-cost to low-cost technologies; community financing needs to be intensified; and private sector involvement needs to be enhanced. Sound sector management is necessary, including the establishment of coverage status, definition of goals, and annual monitoring of inputs and coverage in each country.

Currently, in developing countries (including China), an estimated 1.2 billion people–or 31 per cent of the population–do not have access to adequate, safe water supplies.

Similarly, an estimated 1.7 billion people–43 per cent of the population of developing countries–are without access to appropriate sanitation.

Communities pay exceptionally high prices in terms of physical health and social well-being for the lack of access to such vital resources as water and sanitation. For example, many diarrhoeal diseases are water-borne, water-washed, water-based, or otherwise water-related. In 1985, WHO reviewed 67 studies of water and sanitation from 28 countries and found that improvements in water quality and accessibility cut diarrhoeal morbidity rates by nearly 40 per cent. Experts believe that reductions in diarrhoea-related deaths would be even higher.

Percentage reductions in diarrhoeal morbidity rates attributed to water supply or excreta disposal improvements

		Percentage reduction	
Type of intervention	**Number of results**	**Median**	**Range**
All interventions	53	22	0-100
Improvements in water quality	9	16	0- 90
Improvements in water availability	17	25	0-100
Improvements in water quality and availability	8	37	0- 62
Improvements in excreta disposal	10	22	0- 48

Source: Esrey, Freachem and Hughes, "Interventions for the control of diarrhoeal diseases among young children: Improving water suplies and excreta disposal facilities", Bull. WHO, 63(4), 757-772 (1985).

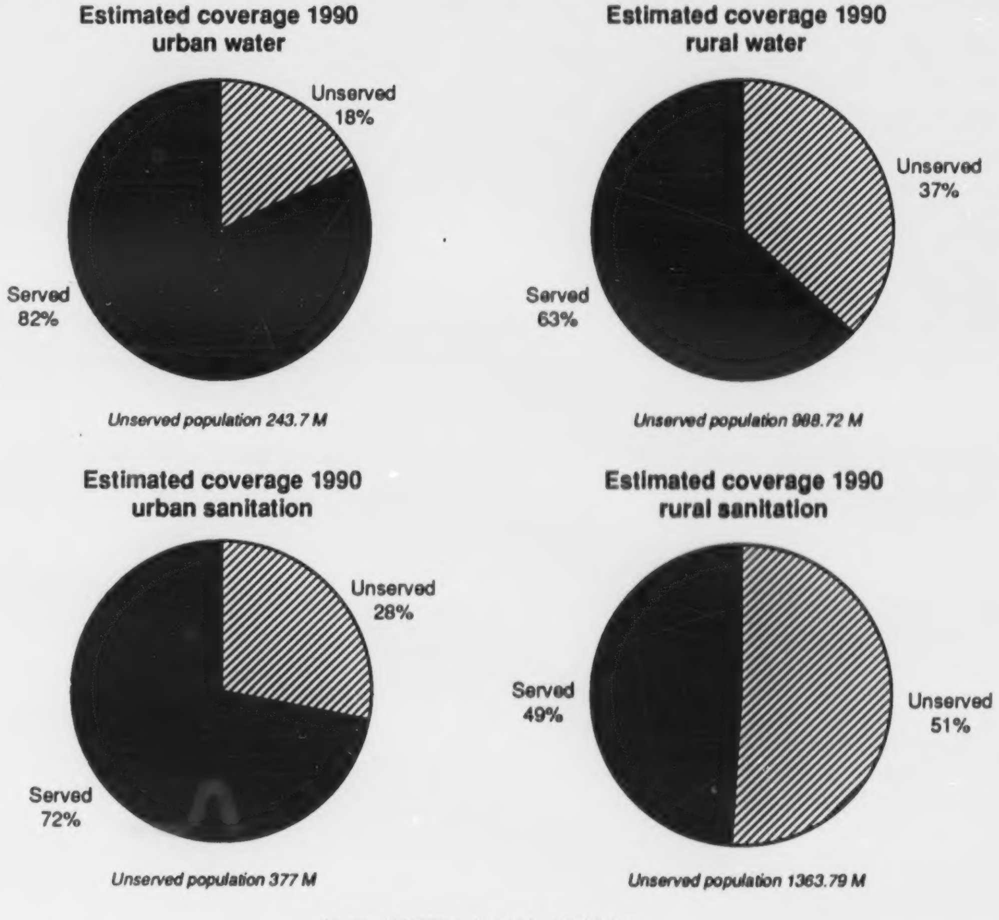
And women and girls, the principal carriers of water in most cultures, have to walk long distances, sometimes up to five kilometres, to fetch water that may or may not be safe. The effort expends calories these women can ill afford, and leaves them with less time and energy to care for their children, to participate in social activities, and to meet other responsibilities.

Where the world stands now

On 10 November 1980, the General Assembly of the United Nations proclaimed the period from 1981 to 1990 the International Drinking Water Supply and Sanitation Decade. The primary goal of the decade was to achieve universal access to water and to sanitation in developing countries by 1990. Individual countries have their own definitions of "access," but with regard to water, access is often taken to mean the availability of at least 20 litres of safe water per person daily, at a source within one kilometre from a user's dwelling. Access to sanitation can be understood as a way of disposing of excreta and waste that can be considered sanitary in a given set of circumstances.

After 10 years of intense global effort, an additional 1.3 billion persons were served with water. World-wide access to water has risen by 5 per cent in cities and by 33 per cent in rural communities. In developing countries, urban water coverage is now approximately 82 per cent, and rural water coverage is approximately 63 per cent.

The decade saw more than 700 million people served with sanitation facilities. Global urban sanitation rates rose by 4 per cent, and rural rates rose by 32 per cent. Currently, urban sanitation coverage stands at approximately 72 per cent; rural coverage is approximately 49 per cent.



Estimated coverage 1990 urban water

Estimated coverage 1990 rural water

Estimated coverage 1990 urban sanitation

Estimated coverage 1990 rural sanitation

Source: UNICEF on the basis of WHO data.

The much larger increase of coverage witnessed in rural areas is essentially related to the fact that there were, in general, very few infrastructures in these areas in 1980; low-cost technologies were widely used to provide "first time" services during the 1980s; and in urban areas, while considerable investments were made to rehabilitate or upgrade existing services, these did not always expand service coverage.

The causes for lack of coverage

Several factors have contributed to the problem of inadequate access to water and sanitation:

- Over the years, development has tended to favour central cities and wealthy suburbs to the detriment of rural areas and low-income urban neighbourhoods.
- More money–80 per cent of global sector expenditures–has been spent on high-cost technologies, such as water treatment plants, suited to wealthy urban environments. These mechanized, high-technology systems can cost as much as $550 per capita. Only 20 per cent of global expenditures has been allocated to low-cost technologies such as boreholes and wells with hand-pumps, gravity-fed facilities, and rainwater catchments. Suited for rural communities and low-income urban areas, these cost less than $50 per capita.
- A properly devised action plan and better management of the sector are needed, as are more trained professionals and technicians.
- Ways to fully involve women in water supply programmes, especially in maintaining systems, have not been devised.

Sanitation, unlike water, is not an immediate, felt need. So while many of the above factors affect lack of access to both water and sanitation, one of the most important keys to the success or failure of sanitation programmes is the degree of community involvement and social mobilization such programmes achieve. Until recently, engineering techniques were considered the solution to sanitation problems. Now, however, it has become clear that, especially in rural areas, people need to be educated about the hazards of poor sanitation and how these hazards relate to the water supply.

What can be done

To ensure universal access to safe water, the implementation rates for the 1990s need to be raised by 1.5 to 2.5 times those of the 1980s in rural and urban areas respectively.

The implementation rates required to reach the goal of universal access to sanitation are 3 to 4 times those of the 1980s in urban and rural areas respectively. Yet, sanitation readily lends itself to social mobilization and is less capital intensive than water supply programmes. So the sanitation goal can also be achieved, although it will take a greater effort.

Available resources can be used more efficiently if there is a willingness to learn from the experience of the past decade. This experience has taught us the need to:

- Assure sustainability by relying on community management with the active participation of users (especially women); local control of operation and maintenance; and introduction and/or expansion of cost-sharing and cost-recovery measures.
- Strengthen human resources and institutions. Support is needed in training technicians and professional staff, equipping warehouses, offices, and workshops. The exchange of experiences between developing countries needs to be facilitated to prevent errors from being repeated as well as to replicate positive developments.

Currently, 80 per cent of global spending on water and sanitation goes to technologies such as water treatment plants, costing as much as $550 per capita, suited to wealthy urban environments. Low-cost technologies such as boreholes and wells with hand-pumps, suitable in many rural and urban situations, cost less than $50 per capita.

- Encourage widespread use of low-cost technologies and devote a greater proportion of investments to these relative to high-cost (conventional) technologies.
- Give greater priority to peri-urban slums, rather than focusing only or mainly on rural areas. Many rural people who migrate to urban areas settle in the peri-urban fringes, thereby creating a unique set of health and social problems.
- Increase the monitoring and evaluation of projects so that information from individual communities (regarding the cost-effectiveness of techniques, technological innovations, and improved social approaches) can be disseminated throughout the sector.
- Continue to link water and sanitation vigorously with health and related concerns, especially with the control of diarrhoeal diseases, eradication of Guinea worm disease, control of schistosomiasis, and reduction in cases of trachoma.
- Mobilize individual communities and whole nations to achieve greater awareness of problems caused by lack of access to clean

water and sanitation and their solution, learning from the systematic mobilization techniques used in the Universal Child Immunization (UCI) programme. Enlist support of governments, international agencies, bilateral donors, and the private sector to generate or reallocate funds to accelerate the coverage rate.

- Support research to refine and modify existing low-cost and high-cost technologies, thus reducing the long-term costs of water and sanitation.

What universal access will cost

Approximately $10 billion was spent annually in developing countries for water and sanitation in the 1980s. Governments, on average, contributed about 65 per cent of this amount, and external support agencies provided the remaining 35 per cent.

On the order of $35 billion per year will be needed during the 1990s, if total coverage of water and sanitation is to be achieved by the year 2000. This estimate implies the use of low-cost technology ($30 per capita for water supply and $20 per capita for sanitation) for rural populations globally, as well as for 25 per cent of all urban populations. It also implies the use of "intermediate technologies", costing $100 per capita for water supply and $25 per capita for sanitation for an additional 25 per cent of the unserved urban population, and high-cost technology ($550 for water and sanitation) for the remaining 50 per cent of the unserved urban dwellers.

Using this model, over 80 per cent of the currently unserved population could be reached with less than 30 per cent of the total required investment.

To reach the accelerated implementation rates, the following are both necessary and feasible:

- Reallocation of financial resources. Currently about 80 per cent of funding goes toward high-cost technologies and 20 per cent toward low-cost technologies. A ratio of 70:30 would represent a better funding ratio for high-cost and low-cost technologies.
- New resources allocated to water and sanitation, particularly from external agencies, are required.
- Community financing via cost-recovery and/or cost-sharing mechanisms that are already in progress should be intensified.
- Private sector involvement should be enhanced.

Universal access and the Summit

As political will is so crucial for the attainment of universal access, the World Summit for Children is an ideal forum for political leaders to give priority to achieving the goals on time.

An important first step would be by declaring that access to clean water and sanitation is a right of every child and endorsing national and global efforts for achieving universal access.

To meet the goals, each country needs to give priority to the following:

- A local review of their country's status regarding water and sanitation; its coverage as of 1990; a target date for universal access, and annual increments of coverage expected between 1990 and the target date; the types of assistance required initially and in the long run.
- Establishment of an action plan for the 1990s. This should be based on the above reviews of the country's status.
- Establishment of a monitoring unit by the government with help, if necessary, from external support agencies. This unit will monitor the entire water sector on an annual basis, using a local definition of "access."

Further reading

"UNICEF and the 1990s: The Water and Sanitation Sector Workplan for 1990-1995," Document WET/628/89. UNICEF. 1989.

Draft "Decade Assessment Report." WHO. Geneva. 1989.

WATER AND SANITATION

	% of population with access to safe water 1985-87			% of population with access to sanitation 1985		
	Total	Urban	Rural	Total	Urban	Rural
LATIN AMERICA & CARIBBEAN	**70**	**85**	**43**	**62**	**80**	**23**
Argentina	56	63	17	69	75	35
Bolivia	44	75	13	21	33	10
Brazil	78	85	56	64	86	1
Chile	94	98	71	85	100	4
Colombia	92	100	76	70	96	13
Costa Rica	91	100	83	94	99	89
Cuba						
Dominican Rep.	63	85	33	28	41	10
Ecuador	58	81	31	67	98	29
El Salvador	52	68	40	60	82	43
Guatemala	38	72	14	24	41	12
Guyana	77	100	65	86	100	79
Haiti	38	59	30	21	42	13
Honduras	50	56	45	30	24	34
Jamaica	96	99	93	91	92	90
Mexico	77	89	47	58	77	13
Nicaragua	49	76	11	27	35	16
Panama	83	100	64	81	99	61
Paraguay	29	53	8	86	89	83
Peru	55	73	17	50	67	12
Trinidad & Tobago	98	100	95	98	100	95
Uruguay	85	95	27	59	59	59
Venezuela	90	93	65	51	57	5
MIDDLE EAST & NORTH AFRICA	**76**	**98**	**55**	**N/A**	**N/A**	**N/A**
Algeria	68	85	55	57	80	40
Egypt	73	92	56			
Iran, Islamic Rep.	76	95	55			
Iraq	87	100	54	75	100	11
Jordan	96	100	88	61	92	
Kuwait		97			100	
Lebanon	93	95	85			
Libyan Arab Jamahiriya	97	100	90			
Morocco	60	100	25			16
Oman	53	90	49	31	88	25
Saudi Arabia	97	100	88		100	
Syria	76	98	54			
Tunisia	68	100	31	52	84	16
Turkey	78	95	63			
United Arab Emirates						
Yemen	42	100	25		83	
Yemen, Dem.	54	85	32			
AFRICA SOUTH OF THE SAHARA	**35**	**69**	**23**	**30**	**61**	**15**
Angola	30	87	15	19	29	16
Benin	52	80	34	35	58	20
Botswana	54	84	46	42	93	28
Burkina Faso	67	43	69	9	44	6
Burundi	26	98	21	58	84	56
Cameroon	33	43	24	46	100	1
Central African Rep.		13				
Chad						
Congo	21	42	7			
Côte d'Ivoire	19	30	10			
Ethiopia	16	69	9		96	
Gabon	92					
Ghana	56	93	39	30	61	16

WATER AND SANITATION

	% of population with access to safe water 1985-87			% of population with access to sanitation 1985		
	Total	Urban	Rural	Total	Urban	Rural
AFRICA SOUTH OF THE SAHARA (continued)						
Guinea	19	41	12			
Kenya	30	61	21			
Lesotho	36	65	30	15	22	14
Liberia	55	100	23			2
Madagascar	32	81	17			
Malawi	56	97	50			
Mali	17	46	10	19	90	3
Mauritania		73				
Mauritius	100	100	100	92	100	86
Mozambique	16	38	9	21	53	12
Namibia						
Niger	47	35	49			
Nigeria	46	100	20			5
Rwanda	50	79	48	57	77	55
Senegal	53	79	38		87	
Sierra Leone	25	68	7	25	60	10
Somalia	34	58	22	18	44	5
South Africa						
Sudan	21	60	10			
Tanzania	56	90	42	68	93	58
Togo	55	99	41	14	31	9
Uganda	20	37	18	30	32	30
Zaire	33	52	21			9
Zambia	59	76	41	56	76	34
Zimbabwe			32			15
ASIA	**44**	**70**	**29**	**45**	**58**	**37**
Afghanistan	21	38	17		5	
Bangladesh	46	24	49	6	24	3
Bhutan			19			
China		85				
Hong Kong						
India	57	76	50	10	31	2
Indonesia	38	43	36	37	33	38
Kampuchea	3	10	2			
Korea, Dem.						
Korea, Rep.	77	90	48	100	100	100
Laos	21	28	20			
Malaysia	84	96	76	76	100	60
Mongolia						
Myanmar	27	36	24	24	33	21
Nepal	29	70	25	2	17	1
Pakistan	44	83	27	20	51	6
Papua New Guinea	27	95	15	45	99	35
Philippines	52	49	54	67	83	56
Singapore	100	100		99	99	
Sri Lanka	40	82	29	45	65	39
Thailand	64	56	66	53	78	46
Viet Nam	46	70	39			
INDUSTRIAL COUNTRIES						
No data available						

Source: The State of the World's Children 1990, Table 3 and (for China) UN Economic Commission for Asia and Pacific.
(For explanations and qualifications to specific figures, see notes there.)
Figures for country groupings are median values.

Elimination of dracunculiasis

In brief

The Goal: Elimination of dracunculiasis by the year 2000.

Dracunculiasis is frequently referred to as Guinea worm disease. The Guinea worm, a water-borne parasite, infects nearly five million people every year (primarily in 19 African countries) who are exposed when they drink water contaminated with the worm's larvae. Eventually a full-grown adult worm emerges in a lengthy and painful process that can last more than two months, incapacitating the victim.

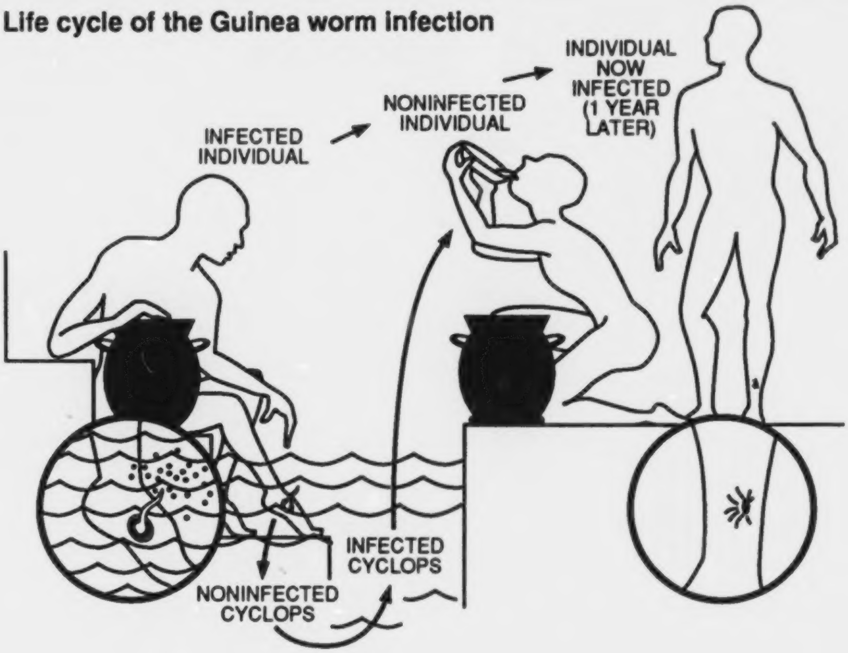
The costs to affected societies are enormous. Children infected with the worms are unable to attend school for months while the worms emerge, and are shunned by children from unaffected villages. A year's harvest–for families and sometimes for an entire village–can be lost when people are simultaneously incapacitated by the ancient disease known as the "fiery serpent," thus increasing children's risk of malnutrition.

Yet ensuring a safe drinking water source for one year with simple, low-cost interventions interrupts the transmission cycle of the Guinea worm. Like smallpox before it, dracunculiasis could be eliminated from the face of the earth before the end of the century.

Dracunculiasis (Guinea worm disease) is an ancient and brutal affliction, caused by a microscopic parasite that enters its victims–via an intermediate host, a small crustacean called cyclops–when they drink contaminated water. The female worm eventually migrates painlessly, from the digestive system through muscle and connective tissue, to a point just under the surface of the skin, usually in the lower extremities. There, it slowly and silently matures, growing to a length of up to three feet. At maturity, about a year after initial infection, the worm produces larvae that cause a burning, "fiery" blister in preparation to emerge.

It is at this point that the disease's cycle of transmission is renewed. Once the blister bursts and a worm is exposed it ejects thousands of microscopic larvae. And the worm continues to eject larvae, contaminating the environment and infecting drinking water, until it is completely removed, a process that can take as long as two months. A person seeking relief from the burning of the blister by immersing the affected area in a water source spreads the larvae. Or someone in whom a blister has broken and the worm is exposed may work in the fields near a water source or go to collect water, in that way contaminating the environment.

Life cycle of the Guinea worm infection



Source: Clinical Medicine, Vol. 3, Chapter 76 (see reference at end of chapter)
Reproduced with permission

One or more worms may emerge together and there are exceptional cases of 25 or more worms emerging simultaneously. The disease is rarely fatal, but it can cause permanent disability, largely as a consequence of secondary infection of the open wound.

People do not develop immunity to Guinea worm, and repeat infections are common year after year, decade after decade. There is no modern medical treatment for the disease. In the traditional treatment, the worm is wrapped around a small stick and slowly pulled out of the flesh over a period of weeks or months. Some believe the technique was the inspiration behind the familiar symbol of modern medicine, a serpent wrapped around a staff.

Where guinea worm occurs

Some five million to ten million people of all ages are infected with dracunculiasis annually. With the exception of a few areas in India (8,000 cases) and Pakistan (500 cases), all known cases occur in 19 African countries.

Reported cases of dracunculiasis, by Year, 1985-1989*

Country	1985	1986	1987	1988	1989
Benin	...	...	400	33,962	5,692
Burkina Faso	458	2,558	1,957	1,266	5,122
Cameroon	168	86	...	752++	871+
Central African Republic	31	–	1,322	...	...
Chad	9	314	...	...	...
Cote d'Ivoire	1,889	1,177	1,272	1,370	1,555
Ethiopia	1,467	3,385	2,302	751	...
Gambia	–	–	–	...	...
Ghana	4,501	4,717	18,398	71,767	179,670+
Guinea	–	–	–	...	1
India	30,950+	23,070+	17,031+	12,023+	7,881+
Kenya	...	...	...	...	5+
Mali	4,072	5,640	435	564	483
Mauritania	1,291	...	227	608	447
Niger	1,373	...	699	...	...
Nigeria	5,234	2,821	216,484	653,492+	640,008+
Pakistan	...	...	2,400	1,111+	535+
Senegal	62	128	132	38	...
Sudan	...	822	399	542	...
Togo	1,456	1,325	...	178	2,749
Uganda	4,070	...	...	...	124

* From passive reporting and/or area–limited searches unless otherwise indicated
+ National survey
... No data available
– Zero cases reported

Source: WHO Collaborating Center for Research, Training, and Control of Dracunculiasis – Centers for Disease Control, Atlanta, Georgia

Nigeria, Ghana, Benin, Burkina Faso, and Togo are the most severely affected countries. The full extent of the disease is not known, as only two countries–Nigeria and Ghana–have completed national case surveys to date. Before these national surveys, only 1 per cent of the Guinea worm cases in these countries was reported annually.

The disease also occurs in regions of Sudan, Senegal, Mali, Mauritania, Cote d'Ivoire, Uganda, Ethiopia, Niger, Cameroon, and Chad. The Central African Republic, the Gambia, Kenya, and Guinea are believed to have isolated areas of infection.

Dracunculiasis is highly localized. It may affect one village severely, or just a part of a village, completely sparing neighbouring areas or villages. Affected villages tend to be small and remote and the inhabitants are significantly less healthy, poorer, less organized as community members, and have less political influence than inhabitants of nonaffected villages. Affected villages are truly the "least reached villages" of sub-Saharan Africa.

Dracunculiasis is entirely preventable. The long-term and short-term solutions for the disease coincide: Villagers in affected areas need to be informed about the cause of the problem and motivated to drink safe water exclusively for one year, interrupting the annual cycle of transmission.

How to solve the problem

Dracunculiasis is entirely preventable. The long-term and short-term solutions for the disease coincide: Villagers in affected areas need to be informed about the cause of the problem and motivated to drink safe water exclusively for one year, interrupting the annual cycle of Guinea worm transmission.

Water can be made safe in a variety of low-cost ways. It can be strained through a cloth or filtered through sand, boiled, chlorinated, or iodinated, or the pond or other water source can be treated with a safe chemical larvicide. A pond or well can be protected so that an infected villager cannot contaminate the water by stepping into it. A borehole fitted with a hand-pump will never become contaminated by Guinea worm.

The costs of the disease

There have been few quantitative studies, but the social and economic consequences of Guinea worm disease are clearly enormous. Children who are affected are unable to attend school for months at a time, and are often shunned by children from unaffected villages who do not understand the origin of the disease. Children who are not themselves infected, but whose parents are, must assume even greater responsibilities at home to help the family when the parent is incapacitated. Children of infected parents are also at much higher risk for malnutrition.

The economic impact on families and entire villages can be devastating. Because infection by worm larvae and the subsequent emergence of mature worms are seasonal phenomena, in highly endemic areas nearly the entire population of a village may be incapacitated. A year's harvest may lie abandoned in the fields because so many people are immobilized at the same time. In 1982, a World Bank economist estimated that between $300 million and $1 billion are lost in marketable goods every year because of the disease.

Status of dracunculiasis elimination programmes

Country	Target date for elimination	National search conducted/planned	Plan of action developed	National coordinator designated
Benin	1995	2/90	Yes	Yes
Burkina Faso	1995	1990	Yes	Yes
Cameroon	1993	1984-1990	Yes	Yes
Central African Rep.	None	9/90	No	No
Chad	1995	1990	1990	No
Cote d'Ivoire	1995	1990	No	No
Ethiopia	1995	1990	No	No
Gambia	+	9/90	No	No*
Ghana	1993	1989-1990	Yes	Yes
Guinea	+	6/90	1990	?
India	1991	1980-1990	Yes	Yes
Kenya	?	1989	1990	Yes
Mali	1995	9/90-11/90	Yes	Yes
Mauritania	?	9/90	No	No*
Niger	1995	5/90	Yes	No
Nigeria	1995	1988-1990	Yes	Yes
Pakistan	1990	1987-1990	Yes	Yes
Senegal	1995	12/90-1/91	1990	No
Sudan	1995	None	No	Yes
Togo	1995	11/90-3/91	Yes	No
Uganda	1995	1990	No	Yes

* Official in charge of communicable diseases is responsible for dracunculiasis

+ Indigenous disease may have already disappeared

The cost of eradication

Affected villages are poor in the health infrastructures needed to eradicate dracunculiasis: the means of identifying the problem, educating people on how to control it, and making the necessary environmental engineering changes in the water supply.

It is difficult to estimate the cost of extending the public health infrastructure to the approximately 30,000 to 40,000 affected villages. The effort will probably require in the region of $250 million to $500 million, including the cost of new and improved water points.

Current water supply programmes can help meet much of the expense. Financial and technical assistance will be needed from the international community to eradicate the scourge, but there is substantial scope for recovering some costs locally. The willingness of villagers to pay for a substantial part of the basic services required to combat the disease has been demonstrated time and again.

The role of the Summit

At the Third African Conference on Dracunculiasis that met in March 1990, delegates from countries where the disease is endemic asked that the disease be brought to the attention of world leaders assembled at the World Summit for Children so that, like smallpox before it, dracunculiasis can be eliminated from the face of the earth, for all time, within this decade. A strong consensus from the Summit would put the goal well within reach.

Further reading

"Dracunculiasis," by Donald R. Hopkins, in *Clinical Medicine*, John A. Spittell, Jr., ed. Vol.3, chapter 76. Harper & Row. Philadelphia. 1986.

"Dracunculiasis Eradication: Target 1995," by Donald R. Hopkins and Ernesto Ruiz-Tiben, *American Journal of Tropical Medicine and Hygiene*, 43(3) 1990 (in press).

PART FIVE:

Basic education

Basic education: an overview

In brief

The Goals:

- *Expansion of early childhood care and developmental activities, including family and community interventions, especially for poor, disadvantaged, and disabled children.*
- *Universal access to basic education and completion of primary education by at least 80 per cent of primary school-age children through formal schooling or non-formal education of comparable learning standard, by the year 2000, with emphasis on reducing current disparities between boys and girls.*
- *Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to one half its 1990 level by the year 2000, with sufficient emphasis on female literacy to significantly reduce the current disparity between male and female literacy rates.*
- *Increased acquisition by individuals and families of the knowledge, skills, and values required for better living and sustainable development, made available through all educational channels including the mass media, other forms of modern and traditional communication, and social action.*

Ensuring that all citizens acquire the basic tools of literacy and numeracy is one of the most formidable challenges facing developing nations—where one out of every two children does not have the benefit of primary education, and three out ten adults (and six out of ten women) cannot read or write.

Intense social and economic mobilization and firm political will are crucial to meet the needs, particularly since resources for education, both from countries themselves and external sources, have fallen in many developing countries in the past decade. Teaching materials, as a result, are often nonexistent, and teachers' morale has faltered.

The four goals above are the strategic framework for progress, with primary education the cutting edge of a larger effort that includes

the complementary elements of early child development, adult literacy, and general access for all—through every possible channel of education and communication—to the knowledge necessary to improve life. Each country will need to set learning objectives for all its people and monitor their achievement in all educational programmes.

The world faces the unconscionable facts that one out of every two children in developing countries today does not enjoy the benefit of a full primary education, and three out of ten adults—and six out of ten women—cannot read or write. In sub-Saharan Africa and South Asia, which together account for over 30 per cent of the world's population, these proportions are substantially higher.

Educational and literacy statistics in the developing world are grim, and the handicaps imposed on individuals and societies as a result are enormous. For it is basic education, once a child's survival and health are ensured and protected, that enables the child to grow to be a productive person and live with human dignity.

Basic education is a learning foundation for all citizens, in which the tools of reading, writing, and numeracy, as well as fundamental knowledge and skills for life, are acquired. It is the foundation on which societies, depending on their resources and needs, build further learning opportunities for as many people as possible, at levels as high as possible.

And effective forms of basic education for all is a necessary condition for reversing the widening economic disparity between the poor and the rich countries, as well as tackling such critical problems of our age as protecting the environment and building harmonious societies without racial, ethnic, and religious violence.

The vital importance of basic education was reaffirmed recently at the World Conference on Education for All, held in Jomtien, Thailand, in March 1990. The conference, in which 155 county representatives, four heads of state, over 100 ministers, heads of several United Nations and international organizations, professional bodies and voluntary non-governmental organizations (NGOs) from all over the world participated, unanimously adopted a World Declaration and a Framework for Action to meet basic learning needs of every person–child, youth, and adult.

Framing the concept of basic education

Basic education is a learning foundation for all citizens, in which the tools of reading, writing, and numeracy, as well as fundamental knowledge and skills for life, are acquired. It is the foundation on which societies, depending on their resources and needs, build further learning opportunities for as many people as possible, at levels as high as possible.

Basic education, including primary education for children, and literacy and continuing non-formal education for youth and adults, is not a restrictive concept. Early childhood care and education programmes and the extensive use of the communications media for disseminating vital knowledge are important and supportive components of basic education. Three premises underpin basic education:

First, the minimum or base that is intended for all is not the total for all. The minimum is the beginning of a self-sustaining process of learning for each individual.

Second, the level of the common base of learning can and will be raised progressively in all societies.

Third, all societies have to ensure that every citizen is equipped with the basic tools of learning and the basic knowledge and life skills relevant to his or her environment, so that each has a fair start in life.

The cutting edge of primary education

Primary health care (PHC) and child survival efforts in the past decade have taught us that in dealing with a complex, multi-faceted development phenomenon it is necessary to forge a cutting edge that can penetrate the many layers of obstacles to progress. In the case of basic education, the cutting edge would be success in primary education, particularly in such regions as sub-Saharan Africa and South Asia, where primary education lags far behind other regions of the world.

Concentrated efforts to ensure universal primary education would entail the following:

Setting goals and developing strategies in each country. The setting of goals by individual countries for universal access to and meaningful participation in primary education is necessary within the next decade. By identifying the most crucial of those things that can be done and doing them well, success is achieved that builds credibility and confidence for further success on a broader front. Countries' goals for primary education would serve as the wedges for broader efforts in basic education for all. Each country will have to explore and develop its own package of policies, strategies, and means of implementation. International partners would then pledge help and support in developing and achieving each country's goals.

Setting and assessing learning achievement levels. In primary education, the achievement of a basic level of literacy, numeracy, and life skills as defined by each country needs to be set and monitored by an assessment system. In most countries today there is no objective measurement to monitor the real progress made in achieving basic education objectives. Generally, enrolment is taken as the goal and as a proxy measure for learning. Now, however, minimum levels of learning performance must be set and systems devised for assessing the performance of both the learner and the educational programme. The goal, for example, of having 80 per cent of 11-year-olds achieve a certain level of skills in literacy and numeracy and acquire certain basic knowledge could be periodically sample-tested to determine if it is being achieved.

Priority to girls and women and other disadvantaged groups. There must be an emphasis, as appropriate in each country, on the special need to reach out to girls and women, and to other disadvantaged groups, as early as possible to remove disparities in access to, and participation and achievement in learning. Since countries are at different stages of development regarding universal basic education, each country needs to set goals relevant to its circumstances, to be met within a given timeframe. Urgent attention, however, will need to be given to ways of removing cultural, economic, religious, and other barriers to participation in basic education.

Promoting complementary elements. The other elements of basic education, including early childhood development, adult literacy, and wider access to basic knowledge for living, need to be supported and promoted through the mass media and other channels of communication.

- Early childhood development, for example, is vital for expanding primary education and important in its own right. Early child care and pre-school programmes enhance learning performance and reduce the drop-out rate among disadvantaged children. A combination of approaches, including home and family-based programmes, activities linked with health and nutrition services, as well as conventional nurseries and kindergartens, and those that target parents and other care givers as well as children, provides the best chance of helping young children develop.

- Mass media and all other means of effective communication, important in their own right, also complement primary education and adult literacy efforts. This "Third Channel" of education, sometimes called informal education as distinct from formal and non-formal education, consists of both modern and traditional methods of communication and social action. Knowledge vital to improving people's health and well-being can be disseminated through this Third Channel. Such use of communication media would help close the gap identified by Federico Mayor, Director General of UNESCO, in his speech at the opening of the World Conference on Education For All in March 1990: "Never before in history has there been such a gap between the knowledge that could empower people and improve their well-being, and its actual availability to those who need to know."

Mobilizing support for the goals

Achievement of the goals has to be a national task in each country rather than the obligation of the education sector alone. National leaders have a special responsibility to place basic education high on the national agenda, engage in vigorous advocacy of the goals, and contribute to forging an alliance of all sectors of society in support of these goals.

In a process of social mobilization, all organized elements in society—youth and women's organizations, trade unions, religious bodies, social and cultural organizations, professional groups, cooperatives, industrial enterprises—can join and play an active role.

Local, national, and international NGOS have proven their extraordinary capacity for mobilizing people for self-reliant development. Serving as facilitators, usually at community and local levels, they help create and sustain the grassroots dialogue that helps people express their own learning needs, decide how they themselves can achieve them, and identify what human and material resources they can tap from government and other sources. Governments would do well to enhance the creativity and effectiveness that NGOS display in mobilizing people.

The Third Channel of education can also be used to mobilize societies to support and participate in basic education efforts. Thus, media, NGOS, religious groups, and community organizations might all join forces to build a school facility, for example, or help families overcome obstacles to keeping their children in school.

Where resources can be found at home

There is no doubt that intensifed and accelerated efforts in basic education will require substantial additional resources during the next decade. A recent study commissioned by UNICEF and UNESCO indicates that in 72 low-income and lower-middle-income countries, an additional $5 billion per year will be required over the next decade to ensure primary education of acceptable quality for all children, taking into account various cost-effective measures.

Many of the components of basic education—such as early childhood care and education, literacy and post-literacy learning, and the Third Channel of informal education—will depend on contributions from the learners themselves and their families, the community, local economic enterprises, voluntary organizations, and contributions from government sectors other than education, as well as public allocations for education.

In contrast, the major source of finance for primary education is generally government budgets at the national or sub-national level. In most countries, however, families and voluntary and religious organizations have traditionally contributed substantially as well. All these sources must be tapped to the fullest extent in the next decade.

For mobilizing the necessary resources, three kinds of action, all requiring vision and political will, are necessary:

- Changes within the education system, in structure, practice, and efficiency to achieve greater cost-effectiveness, including reducing grade repetition, instituting double-shift teaching, and making class sizes efficient in some situations.
- Strengthening the basic education system to raise its quality. A minimum of books and basic equipment must be assured for every classroom, and incentives and conditions for teachers must be improved during the 1990s. While such strengthening may add to total costs, it is vital for improved performance as well as for universal coverage and for encouraging peoples' support for education.
- The review of all mechanisms for increasing revenue and domestic financial support for basic education. Increased fees for primary education may raise a small amount of funds in some countries. In most countries, to increase resources for basic education, education budgets themselves will have to be restructured to give priority to basic education and education will need to be given a larger share of the total government budget and of total national resources in many developing countries. Among the possibilities are a reallocation of spending from defence budgets to education, and a shift in budget emphasis from higher levels of education to basic education.

Finding resources externally

External assistance will be a decisive influence on the Least Developed Countries, particularly in the countries of sub-Saharan Africa, which have seen a progressive decline in assistance for two decades and in South Asia where there is the largest concentration of educationally disadvantaged children and adults.

The study of low- and lower-middle income countries mentioned above concludes that of the additional $50 billion needed in the next 10 years to give every child the opportunity for basic education, some $15 billion will have to come from external assistance, given primarily to the Least Developed Countries.

This estimate of needs is based on the assumption that the economic decline of these countries will be arrested, that their debt burdens will not grow, that national budgets and GNP for education will show moderate growth, that reforms for more efficient spending will be implemented, and that current levels of external support will continue.

During the 1980s, the share of resources from external donors going to education fell from 17 to 10 per cent. Political will has to be mobilized internationally to restore and to increase education's share in total aid. National leaders can play a decisive role in exploring new means to elicit support for education.

External debt relief, for example, might be combined with additional education support, since without significant debt relief it will be impossible to achieve the objectives of basic education for all.

Donors, including multilateral agencies, also need to consider that the forms that aid usually takes—support for capital construction, imported equipment, and outside technical assistance—are not the major needs in basic education.

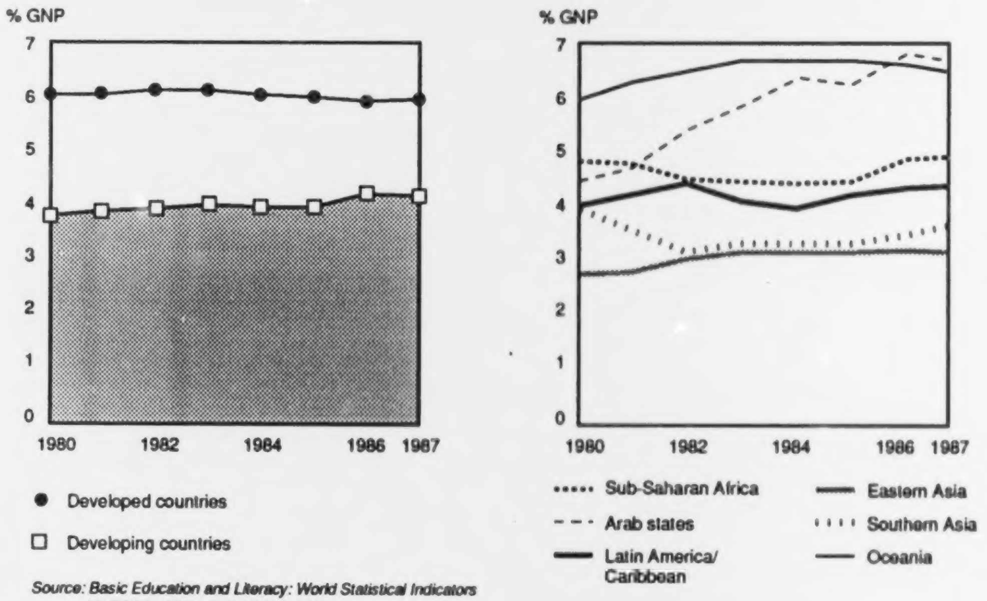
And the popular commitment of NGOs in the industrial countries can be encouraged and built upon to provide yet further support.

Through such means it should be possible to raise the necessary $1.5 billion per year needed beyond present external support.

In short, to give every child a chance for basic education, the international community, during this new decade, needs to aim at:

- Providing a certain amount, say up to $5 per pupil where it is essential, to ensure that no country in sub-Saharan Africa and the Least Developed Countries elsewhere lacks textbooks, exercise books, blackboards, and other material necessary to achieve the basic education goal, if they are so committed;

Public expenditure on education as a percentage of GNP



Source: Basic Education and Literacy: World Statistical Indicators
UNESCO, Office of Statistics 1990

Public expenditure on education as a percentage of GNP

	1970	1975	1980	1985	1986	1987
World Total	5.5	5.8	5.5	5.6	5.6	5.6
Developing Countries	2.9	3.6	3.8	4.0	4.2	4.2
Sub-Saharan Africa	3.1	3.9	4.8	4.4	4.8	4.9
Arab States	5.0	5.9	4.4	6.2	6.7	6.6
Latin America/Caribbean	3.3	3.6	3.9	4.1	4.3	4.3
Eastern Asia	1.9	2.2	2.7	3.2	3.2	3.1
Southern Asia	2.6	3.1	4.0	3.3	3.4	3.5
Oceania	7.0	7.7	6.0	6.7	6.6	6.5
Developed Countries	6.0	6.3	6.0	6.0	5.9	5.9

Source: see previous chart

- Providing additional support through debt relief and exploring other innovative measures to help communities increase the local resources they can allocate to education.

Further reading

"World Declaration on Education for All" and "Framework for Action to Meet Basic Learning Needs," adopted by the World Conference on Education for All, March 5-9, 1990, Jomtien, Thailand.

"Meeting Basic Learning Needs: A Vision for the 1990s." Background document, World Conference on Education for All. Published by the Interagency Commission (UNDP, UNESCO, UNICEF, World Bank) for the World Conference on Education for All. New York. April,1990.

Basic Education and Literacy: World Statistical Indicators. UNESCO, Office of Statistics. 1990.

Investing in the Future: Setting Educational Priorities in the Developing World, by Jacques Hallak. UNDP/UNESCO. 1990.

Early child development

In brief

***The Goal:* Expansion of early childhood care and developmental activities, including family and community interventions, especially for poor, disadvantaged, and disabled children.**

The economic, social, moral, and scientific arguments for investing in programmes of early childhood care and development are compelling. Examples of effective, low-cost programmes abound. Nations should focus on support and education for parents and other caretakers in particular, as well as on measures to counteract the deteriorating circumstances for the development of children from families in the marginal urban and poorest of rural areas. The World Conference on Education for All in Jomtien, Thailand, in March 1990 recognized the significance of health, nutrition, and early education, including stimulation, integrated into one package for implementation.

Human development is the process of change in which people, from childhood onward, become able to handle ever more complex activities. The process involves considerably more than just growing bigger. It includes a *physical dimension*, the ability to move and co-ordinate; an *intellectual dimension*, the ability to think and reason; a *social dimension*, the ability to relate to others; and an *emotional dimension*, self-confidence and the ability to experience emotions.

Human development begins pre-natally. For a child to develop in a healthy and normal way, it is necessary to meet not only the basic needs of protection, food, and health care, but also to meet the basic needs for affection, interaction and stimulation, security (associated with experience of consistency and predictability), and learning through exploration and discovery. Major demographic, economic, social, and political changes over the last several decades make it all the more vital to focus on the problems of early childhood care and development and to promote conditions of care, socialization, and education, both formally and informally in the home and community.

More than 12 of every 13 children born in 1990 will live to see their first birthday, a prospect only 5 of 6 children born in 1960 had. If goals for infant and child mortality reduction are met, by the year 2000, 19 out of every 20 children born will survive. Many of these children will, in their earliest months and years, face conditions that put them at risk of impaired physical, mental, social, and emotional development; they are condemned to lethargic, unrewarding, unproductive, and dependent lives, unable to cope adequately with an increasingly complex world.

Rapid urbanization and the disruption it causes to the family unit, the erosion of healthy traditional child-care practices, and the difficulty of adapting to new settings all negatively impact on early development. The dramatic growth in the number of women in the paid labour force plus the shift towards nuclear families and women-headed households increase the need for alternative forms of child care in urban and rural areas. The lingering aftermath of the world-wide recession of the 1980s has exacerbated these problems for families struggling to survive at the economic margins.

The case for investing in early childhood care and education

Neglecting early development carries a high social cost. Early childhood development programmes can serve as catalysts for social as well as individual change. A society that ignores this potential, fails to preserve and enhance the very human resources it should be able to call upon in its continuing efforts to overcome such problems as economic stagnation, social disintegration, and environmental degradation.

Scientific research demonstrates repeatedly that the early years are critical in the development of intelligence, personality, and social behaviour. The brain cells are formed during the first two years of life. Sensory stimulation from the environment is essential to the structuring and organization of the brain's neural pathways during the formative period.

Research also shows that children who have experienced consistent, caring relationships will be better nourished and less apt to be sick than those who have been neglected. Also, research has established that early intervention programmes have positive long-term effects on school progress, social behaviour, and economic productivity.

From the human rights point of view, children, being dependent on others in their early years, need help to defend their right to develop to their full potential. In moral and social terms, humanity benefits. It is through children that society transmits, preserves, and/or changes "for the better" its moral and social values.

Concepts such as living together harmoniously or protecting the environment begin to take hold in the pre-school years and can be nurtured and promoted through child development programmes. Equally, by providing a "fair start," the programmes can help modify socio-economic and gender-related inequities such as those affecting the girl child.

On the economic side, society benefits from investing in child development through increased productivity and the savings associated with reductions in school repetition and dropout rates, delinquency, drugs, teenage pregnancies, and illiteracy. Other programmes, where, for example, the accent is on health and nutrition, primary school education, and/or women, can benefit and improve by incorporating those elements of early childhood care and development that focus on healthy mental and social development.

In sum, these arguments provide a compelling case for making a heavy investment in programmes to improve care and enhance development in the early years.

What can be done?

Over the past 15 years, a wealth of experience and knowledge has accumulated as a result of hundreds of experiments with programmes of early childhood care, stimulation, and education, all within a framework of integrated attention to the young child. These include programmes of institutional care and education (creches, home day care, formal and non-formal pre-schools, play groups, kindergartens, child care centres in the work place, etc.); programmes of support and education for parents and other caregivers (home visiting, adult education, mass media presentations, child-to-child); and broader community development programmes built around integrated attention to the child. (These complementary approaches are set out in the accompanying table).

Much of the programme experience has been derived from smaller-scale efforts that demonstrate innovative, low-cost, and effective programming approaches. Examples include a co-operative system of child care in rural Nepal linked directly to a programme of Production Credit for Rural Women; home visiting programmes in both Ireland and Indonesia using a "cartoon curriculum" presented by local workers and including thematic material on mental and social development, as well as health and nutrition, for discussion with parents and other caregivers; an integrated nutrition and community development project in Northeast Thailand using interactive videos to help create maternal awareness of the child as an individual with early perceptual ability, while stressing the need to recognize the importance of play and mother-child interaction.

Also, more and more large-scale programmes are successfully reaching a significant portion of the population. For instance, Colombia has embarked on a major home day-care programme that early evaluations show to be effective not only in helping the development of children, but in reviving economic activity in marginal communities by freeing women to

Programming for child development: complementary approaches and models

Programme Approach	Participants/ Beneficiaries	Objectives	Models
Deliver a service	The Child • 0-2 years • 3-6 years • 0-6 years	• Survival • Comprehensive development • Socialization • Rehabilitation • Improvement of child care	• Home day care • Integrated child development centres • "Add-on" centres • Work-place • Preschools: formal/ non-formal
Educate caregivers	• Parent, family • Sibling(s) • Public	• Create awareness • Change attitudes • Improve/change practices	• Home visiting • Parental education • CHILD-to-child programmes • Mass media
Promote community development	Community • Leaders • Promoters • Members	• Create awareness • Mobilize for action • Change conditions	• Technical mobilization • Social mobilization
Strengthen national resources, capabilities	Programme personnel • Professionals • Para-professionals	• Create awareness • Improve Skills • Increase material	• Training • Experimental, demonstration projects • Strengthening infrastructure
Advocate child development programmes	• Policymakers • Public • Professionals	• Create awareness • Build political will • Increase demand • Change attitudes	• Social marketing • Ethos creation • Knowledge dissemination

earn and learn. In Kenya, over 700,000 children aged three-to-five are enrolled in non-formal, community-based pre-schools at very low cost to the Government. Italy covers approximately 90 per cent of all three-to-five year-olds through state and non-state nursery schools.

A child-to-child programme in Jamaica that began as a small-scale experiment teaching older children to help in the healthy care and development of their younger siblings is now in the process of being integrated into the national primary-school-system curriculum. India's Integrated Child Development Service reaches into 40 per cent of the nation's socio-economic development districts, with the potential for reaching over 11 million children up to the age of six, as well as pregnant and lactating women. Since 1985, the People's Republic of China has organized over 200,000 "Parent Schools" attached to kindergartens, primary schools, hospitals, and programmes for newly-weds. In yet another kind of programme, Brazil has incorporated provisions for the rights of children into its new constitution.

Society benefits from investing in child development through increased productivity and the savings associated with reductions in school repetition and dropout rates, delinquency, drugs, teenage pregnancies, and illiteracy.

Is the cost prohibitive?

Early childhood development programmes often conjure up images of formal pre-school settings complete with expensive equipment, professional teacher, and classes of 30 or more children. This is not the case with most of the examples cited above, which are effective and low in cost to governments because they rely heavily on para-professionals and/or parents, and use inexpensive and locally-made materials and facilities that are either donated or constructed by the communities they serve. In some instances, these programmes simply constitute an "add on" to existing health or nutrition activities designed to provide integrated attention to the young child.

Early childhood development programmes are sometimes seen as constituting a direct trade-off against primary education or against survival programmes. The fact is that investment in child care and development can reduce costs of other programmes and, in some instances, even pay for itself.

A Brazilian programme of early education, nutrition, and health paid for itself through the reduction in costs it brought about by decreasing repetition in the first two years of primary school. Combined pre-school and primary school costs per first grade graduate were 17 per cent lower than for a child without pre-school experience. In the United States, the Perry pre-school project combining quality pre-school attention with home visiting for disadvantaged children has been shown to bring economic returns seven times the cost. A follow-up study comparing project children with similar children who did not participate showed major differences 15 years later, including higher rates of school completion and employment, and lower rates of juvenile delinquency, teenage pregnancy, and welfare payments. Costs of parental education programmes are also recoverable, since they equip parents to take greater responsibility for care themselves and to use exisiting services more efficiently.

A variety of innovative ways of funding programmes has been found to work. In Thailand, a community-based early education programme is tied to a loans scheme administered by the local community using funds originally provided by an outside donor. Over time, a capital fund is built up as loans are repaid and management skills are sharpened. After five to seven years, the programme is self-supporting. Colombia has supported early childhood programmes from a payroll tax. Some countries have used lotteries. Communities have proven to be strong financers of early care and development schemes, if supported by their Governments.

In short, when it comes to early childhood care and education, the problem of underinvestment is not, at root, a problem of prohibitive costs. Instead, it is primarily a matter of approach, of acquiring new ways of thinking, of taking advantage of exisiting knowledge about what to do, and of mobilizing the political and social will to do it, within the limits of available resources. It is in this light that nations are urged to re-examine their thinking and programmes.

Further reading

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Primary education

In brief

> ***The Goal:* Universal access to basic education and completion of primary education by at least 80 per cent of primary school age children through formal schooling or non-formal education of comparable learning standard, by the year 2000, with emphasis on reducing current disparities between boys and girls.**

A strong primary education is a crucial foundation on which developing nations can build more productive futures. Yet the rate of progress in primary school attendance in many regions over the past decade has slowed, and in some countries the actual numbers have been lower than in the 1970s. Economic decline has had a dual impact: resources were cut from education, leading to poorly equipped and staffed schools that were unable to retain students. And many children, required to work to supplement family income, dropped out of school or never enrolled.

The legacy of impoverishment needs to be reversed, teachers' morale restored, at least minimal educational material ensured for all classrooms, and curricula improved. Levels of learning achievement must be set and systems devised for assessing performance.

Empowering communities to help them define, finance, and achieve the decade's goals is also crucial, so that educating a child is seen not as a burden, but as a way to enhance family, and ultimately national, life.

Primary education, delivered in formal schools and in out-of-school non-formal programmes, is the core of basic education in three fundamental senses: First, it is the main vehicle for catering to the learning needs of children in their formative years. Second, the learning achievement in primary schools and equivalent programmes establishes the foundation in children for further life-long learning. Third, the accomplishments in primary education determine the demand for literacy activities and knowledge-and-skill programmes for youth and adults.

About 600 million children are currently enrolled in primary schools all over the world. Although the designated age span for primary schooling usually is 6 to 11 years, enrolments in most developing countries include up to a quarter of the pupils who are one to two years younger and up to three years older.[1] According to UNESCO, the gross enrolment ratio in all developing countries for 1987 was 91 per cent. This represents an exaggerated picture of the situation because of the statistical weaknesses noted.

Some 100 million children in the primary school age group in developing countries do not enrol in school. At least another 100 million leave primary education without completing this basic stage or acquiring self-sustaining learning skills. According to UNESCO estimates, of 100 children who began grade one in 1986, only 66 reached grade four by 1989 in sub-Saharan Africa; in the Arab States, 83 out of 100 did so; in Latin America and the Caribbean, only 55 did so; in Eastern Asia, 78; and in South Asia, the number was 59.

There is a further and special cause for concern: Although there was major quantitative progress in primary education enrolment in the 1970s, rates of growth in enrolment have fallen considerably in most areas in the 1980s, as the following table shows:

Average annual growth rates of enrolment in primary education (%)

Developing Countries	1970-80	1980-87
Sub-Saharan Africa	3.7	1.0
Arab States	8.7	2.5
Latin America & the Caribbean	3.2	1.6
Eastern Asia	3.2	1.1
Southern Asia	3.0	3.3
Oceania	2.9	2.6
Developed Countries	1.1	0.2

Source: UNESCO, Basic Education and Literacy, World Statistical Indicators, Table 5.

In the developed countries, Oceania, and East Asia, the lower growth rate in enrolments is attributed to slow growth of the primary school age population. The lower growth rate in enrolments in sub-Saharan Africa and the Arab States, however, reflects lower investments in primary education rather than demographics.

South Asia has maintained its growth rate, but this region, with a gross enrolment rate of 86 per cent, and the Arab States and sub-Saharan Africa, with rates of 83 per cent and 72 per cent respectively in 1987, all lag behind the average of 91 per cent enrolment for all developing countries and 99 per cent for the world.

Why growth rates have slowed

The slow growth in primary school enrolment rates in sub-Saharan Africa and Latin America in particular is related to the economic situation in those regions. In the 1970s, public spending for education grew at a median rate of 8.4 per cent in sub-Saharan Africa and 7 per cent per year in Latin America in constant prices. These rates dropped to 3.4 per cent and 4 per cent respectively in the 1980s.

At the same time, it has become clear that just building schools does not guarantee that children will attend or that parents will find schools useful or relevant. In India, for example, one estimate is that at least 45 million children in the primary school age group, or about one third of the total, are engaged in paid work or work in the household to supplement their families' meager income, and cannot participate in primary education unless the school's educational programme and learning content are redesigned to suit their circumstances.

Another limitation is the poor quality of the education many schools offer, which reinforces the low demand and motivation of children and parents among the disadvantaged groups. In the poorer areas of low income countries in sub-Saharan Africa, South Asia, and Latin America, the deterioration in recent years in the quality of primary education has reached a stage where the minimum conditions for any form of efficient learning no longer exist.

Major strategies for change

Experience has shown that a comprehensive approach, addressing the specific and critical needs of countries and situations will be required.

Some major areas of concern include:

Restoring teachers' morale and motivation. The first and most critical input into primary education is the teacher. The motivation and morale of teachers have been seriously affected in many countries by the fall in standards of living caused by the recent economic crisis and adjustment policies.

Raising financial rewards for teachers in a substantial way may be difficult in many countries under present circumstances. However, providing certain material benefits—such as housing—for teachers working in deprived areas could be cost-effective. Using the promotions and incentives systems to encourage the more motivated teachers is also a possibility.

An effective way of improving the performance of teachers is to organize adequate professional support for them, a strategy seriously compromised in many countries by budget squeezes. In-service teacher training, replacing, in part, a lengthy pre-service qualifications requirement, has also been found to be cost-effective in several countries. A combination of distance education, supervised practice, and periodic short courses has been used effectively in some countries, including Tanzania and Zimbabwe. The conservatism of educational establishments, however, has prevented expanded use of this approach.

More flexibility is needed in the way schools are structured and organized. The familiar primary school with its standard duration, sequence, age structures, and pedagogical techniques need not be the only vehicle for basic education. Such variations as flexible daily hours, school calendars that vary according to local conditions, and a combination of productive work and learning have proved effective.

Providing basic learning equipment. The minimum requirements for teaching and learning—seats and desks, blackboards and chalk, textbooks for students and teachers, exercise books and pencils—often do not exist in schools in deprived areas of the developing world. This is not surprising since the proportion of primary school budgets for non-salary expenses is generally extremely low. At the beginning of the 1980s in the Africa region, for example, it was no more than 3 per cent and more often less than 1 per cent.

An urgent, relatively cost-effective step would be to provide every school with a "minimum package" of essential teaching/learning tools. Research has shown that the textbook can be the single most useful tool for the learner. Textbooks require special attention, however, in preparation, design, and production to be effective.

Improving the content. There is a growing awareness that providing a sound general curriculum based on language, mathematics, and science equips the child best for life by giving him or her the tools of learning and reasoning. The practical knowledge and skills relevant to a child's environment can be woven into the basic curriculum through appropriate content and pedagogic methods, rather than by adding new topics to the curriculum.

Monitoring learning achievement. In most countries there is no objective measurement to monitor the real progress made in achieving basic education objectives. Generally, enrolment is taken as the goal and as a proxy measure for learning. A clear definition of learning objectives and performance standards for different grades and for total primary education are urgently needed so that minimum common levels of learning can be established and achievement assessed.

The language of instruction. The multitude of languages and dialects in many countries and their use as media of instruction pose many problems. The use of a child's mother tongue for at least the early years of education is the sound approach from the educational point of view; and people do want to assert their linguistic identity. If the mother tongue is different from the national or official language, however, the learner may be cut off from opportunities for further education and in other areas of life.

The solution to this problem may be in the use of a local language at the primary or early primary levels, both for pedagogical reasons and to preserve local linguistic and cultural identity. Then a transitional phase has to be provided, during which a learner changes over to the national language.

When language policy is formulated, the educational implications in terms of equity in learning opportunities, availability of textbooks and reading materials, the preparation of learning aids, and the training of teachers need to be considered fully.

Stimulating motivation and sustaining demand. A first requirement will be to alleviate or eliminate various direct and indirect costs that have made it increasingly difficult for poor families to send their children to school. During recent years, in many countries, even when tuition is nominally free, families have been asked to pay fees for parents' association dues, school construction, extra curricular activities, costs of school supplies and uniforms, etc.

Another measure to encourage the children of the disadvantaged is school feeding, which has been shown to have a positive impact on attendance and academic performance. Food aid constitutes an important proportion of development assistance which could be linked to expanding feeding and nutrition programmes for young children. Early childhood care programmes for pre-school children also are effective in motivating children to attend primary school.

Adapting schools to local needs. Overcoming the barriers to education is not just a question of stimulating demand. The primary school system must be flexible and creative in meeting the needs of the community it serves and developing affordable approaches.

A national curriculum, for instance, may have to be modified and complemented with materials relevant to the lives of local ethnic and cultural minorities who do not identify with the objectives and content of the educational programme. Relevance can also be enhanced by incorporating into a curriculum local needs for knowledge and skills for improving health, welfare, and living conditions.

More flexibility is needed in the way schools are structured and organized. The familiar primary school with its standard duration, sequence, age structures, and pedagogical techniques need not be the only vehicle for basic education. Variations of the standard model have proved to be effective, particularly for sections of the population outside the mainstream. Examples of such "hybridization" include flexible daily hours, school calendars that vary according to local conditions, distance education, the use of "non-professional" instructors from the community, and a combination of productive work and learning.

Traditional Institutions. Many countries can expand primary education opportunities in partnership with traditional institutions such as Koranic or monastic schools, which existed long before formal schools and which are integral parts of local communities. Several countries (Indonesia, Mauritania, Senegal, and Pakistan, among others) have begun to explore the potential of these institutions.

The mobilization challenge

The numerous obstacles to expansion and improvement of primary education can be ultimately overcome by mobilizing purposefully society's will and determination and by forging a partnership of all who can contribute. Resources and capacities are inadequate; this is what underdevelopment means.

Obstacles can be overcome more easily, however, when parents' natural instincts and deep desire for doing well by their children are harnessed and communities are given a sense of ownership of the basic education programme for their children and for themselves. A case in point is some 3,000 primary classes established by communities themselves, under the auspices of the Bangladesh Rural Advancement Committee (BRAC).

In the face of seemingly intractable problems, these classes are held in sheds erected by the villagers and taught by teachers recruited from the villages. Teachers are given a short period of training and receive continuing support from BRAC supervisory staff. The schools have managed to enrol, retain, and teach effectively girls and boys who had never enroled in or who had dropped out from the regular public schools.

The keys to success seem to be the schools' effectiveness in adapting to the particular circumstances and needs of the people, instead of asking the people to adapt themselves to the requirements of the school, and in releasing the innate energy and spirit of people to help themselves.

A strong community role and that played by non-governmental voluntary organizations such as BRAC in fostering people's involvement do not and cannot mean the abdication of the government's ultimate responsibility for basic education in terms of providing a large share of the finances, setting national policies and goals, and safeguarding overall public interest. But a true partnership of governments, communities, and voluntary organizations offers the best chance of tackling the seemingly insurmountable hurdles.

Further reading

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Primary Education and Economic Recession in the Developing World, by Dieter Berstecher and Roy Carr-Hill. UNESCO. Paris. 1990.

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[1] This causes the statistical problem of a large difference between gross and net enrolment ratios. The gross ratio is arrived at by comparing the total population of children in primary school, regardless of their ages, with the nation's total population in the specified primary-school-age group- in many countries this is the population of children from 6 to 11 years old. The enrolment statistics often do not differentiate between those within the primary-school-age group and those outside the age group who are entrolled, thus overstating the gross enrolment ratio. The enrolment statistics also generally fail to take into account the number of students who drop out during the school year and the repetition of grades.

PRIMARY SCHOOL ENROLMENT AND COMPLETION

	Primary school gross enrolment ratio*				Completion Rate **
	1960		1986-88		1985-87
	Male	Female	Male	Female	
LATIN AMERICA & CARIBBEAN	**96**	**92**	**104**	**104**	**51**
Argentina	98	99	110	110	
Bolivia	78	50	97	85	
Brazil	97	93			22
Chile	111	107	103	101	33
Colombia	77	77	112	115	57
Costa Rica	97	95	100	97	81
Cuba	109	109	107	100	92
Dominican Rep.	99	98	99	103	35
Ecuador	87	79	118	116	50
El Salvador			77	81	31
Guatemala	50	39	82	70	36
Guyana	107	106			84
Haiti	50	42	83	72	15
Honduras	68	67	104	108	43
Jamaica	92	93	104	106	
Mexico	82	77	119	116	71
Nicaragua	65	66	94	104	20
Panama	98	94	109	104	82
Paraguay	105	90	104	99	50
Peru	95	71	125	120	51
Trinidad & Tobago	89	87	99	100	84
Uruguay	111	111	111	109	86
Venezuela	100	100	107	107	73
MIDDLE EAST & NORTH AFRICA	**88**	**39**	**104**	**92**	**82**
Algeria	55	37	105	87	90
Egypt	80	52	100	79	64
Iran, Islamic Rep.	56	27	122	105	83
Iraq	94	36	105	91	71
Jordan	94	59	98	99	96
Kuwait	131	102	95	92	91
Lebanon	105	99	105	95	
Libyan Arab Jamahiriya	92	24			82
Morocco	67	27	85	56	69
Oman			103	92	89
Saudi Arabia	22		78	65	90
Syria	89	39	115	104	67
Tunisia	88	43	126	107	77
Turkey	90	58	121	113	85
United Arab Emirates			98	100	82
Yemen	14		141	40	15
Yemen, Dem.	20	5	96	35	40
AFRICA SOUTH OF THE SAHARA	**45**	**24**	**76**	**59**	**63**
Angola					
Benin	38	15	84	43	36
Botswana	35	48	111	117	89
Burkina Faso	12	5	41	24	74
Burundi	27	9	68	50	87
Cameroon	87	43	119	100	67
Central African Rep.	53	12	82	51	17
Chad	29	4	73	29	17
Congo	103	53			75
Côte d'Ivoire	68	24			68
Ethiopia	11	3	46	28	41
Gabon					59
Ghana	52	25	78	63	
Guinea	44	16	41	18	70
Kenya	64	30	98	93	62
Lesotho	63	102	102	127	52
Liberia	45	18	82	50	
Madagascar	58	45	97	92	30
Malawi		45	73	59	33
Mali	14	6	29	17	39
Mauritania	13	3	61	42	92
Mauritius	103	93	105	107	96
Mozambique	60	36	76	59	39
Namibia					
Niger	7	3	37	20	75
Nigeria	46	27			63
Rwanda			69	66	49
Senegal	36		71	49	83
Sierra Leone	30		68	48	

PRIMARY SCHOOL ENROLMENT AND COMPLETION

	Primary school gross enrolment ratio*				Completion Rate **
	1960		1986-88		1985-87
	Male	Female	Male	Female	
AFRICA SOUTH OF THE SAHARA (continued)					
Somalia	13	13			33
South Africa	94	85			
Sudan	35	14	59	41	61
Tanzania	33	18	67	66	76
Togo	63	24	124	78	59
Uganda		32	76	63	76
Zaire	88	32	84	68	60
Zambia	51	34	102	92	91
Zimbabwe			130	126	74
ASIA	**80**	**58**	**104**	**98**	**67**
Afghanistan	15	2	27	14	63
Bangladesh	66	26	76	64	20
Bhutan	5		31	20	
China			140	124	68
Hong Kong	93	79	106	105	98
India	80	40	113	81	
Indonesia	86	58	120	115	80
Kampuchea					50
Korea, Dem.					99
Korea, Rep.	99	89	104	104	99
Laos	34	16	102	85	14
Malaysia	108	83	102	102	97
Mongolia	79	78	100	103	
Myanmar	61	52			27
Nepal	19	1	104	47	27
Pakistan	46	13	51	28	49
Papua New Guinea	59	7	75	64	67
Philippines	98	93	105	107	75
Singapore	121	113	118	113	95
Sri Lanka	100	90	105	102	88
Thailand	88	79			64
Viet Nam			107	94	50
INDUSTRIAL COUNTRIES	**104**	**103**	**102**	**101**	**95**
Albania	102	86	100	99	
Australia	103	103	106	105	
Austria	106	104	102	101	96
Belgium	111	108	99	100	77
Bulgaria	94	92	105	103	90
Canada	108	105	106	104	
Czechoslovakia	93	93	95	96	93
Denmark	103	103	98	99	99
Finland	100	95	102	101	98
France	144	143	114	113	95
Germany, Dem.	111	113	107	105	
Germany, Fed.			101	101	95
Greece	104	101	106	106	99
Hungary	103	100	97	97	92
Ireland	107	112	100	100	
Israel	99	97	94	97	
Italy	112	109			99
Japan	103	102	102	102	99
Netherlands	105	104	114	116	94
New Zealand	110	106	107	106	
Norway	100	100	95	95	99
Poland	110	107	101	101	94
Portugal	132	129	131	123	
Romania	101	95			
Spain	106	116	113	113	96
Sweden	95	96			
Switzerland	118	118			
United Kingdom	92	92	105	106	
USA			101	100	
USSR	100	100			80
Yugoslavia	113	108	95	94	98

Source: The State of the World's Children 1990, Table 4.
(For explanations and qualifications to specific figures, see notes there.)

* The total number of children enrolled at the primary school level - whether or not they belong in the relevant age group - expressed as percentage of the total number of children in the relevant age group of primary school.

** Percentage of grade one enrolment completing primary school.

Figures for country groupings are median values.

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Adult Literacy

In brief

> ***The Goal: Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to one half its 1990 level by the year 2000, with sufficient emphasis on female literacy to significantly reduce the current disparity between male and female literacy rates.***

Illiteracy is a major obstacle to the economic and social advancement of individuals and nations. Almost one third of the world's adult population is illiterate and about 60 per cent of those marginalized by a lack of education are women. A reassessment of government and donor priorities is urgently needed to address this and other serious imbalances in development priorities.

Among the most urgent needs: a revival in national and donor interest in education spending and an emphasis on basic education to bring illiterate and profoundly disadvantaged population groups into the social and economic mainstream.

Close to one billion people over the age of 15 are illiterate today. That is roughly 30 per cent of the world's adult population—a statistic that embraces about half of the adults in Africa and the Arab States, 60 per cent of the adults in South Asia, one third of the adults in East and South East Asia, 15 per cent of the adults in Latin America and the Caribbean, and almost two thirds of the adults in the world's least developed countries. About 60 per cent of the illiterates are women.

If present trends in educational development continue through the 1990s, illiteracy rates in the developing world will decline only marginally by the year 2000. And with the high rates of population growth in the world's poorest countries, the absolute numbers of illiterates are destined to rise.

A perspective on illiteracy

The illiterate in any society are disadvantaged economically, politically, and culturally. They are deprived of the knowledge, information, and skills that would enable them to advance their position, and thus trapped they tend to pass this legacy to their children. There is a well established linkage between the illiteracy of parents and the failure to enrol children in school and early primary school drop out.

There is also a well documented connection between literacy levels among women, the size of their families, and the mortality and nutrition status of their children. It is now well recognized that the higher a woman's level of education, the greater the likelihood that she will practice family planning, that her children will be well-nourished, and that they will survive the high mortality risks of early childhood.

The cost of illiteracy to society as a whole is the unfulfilled promise of personal growth and the reduced capacity of the individual for self sufficiency and economic achievement.

The distribution of illiteracy in society typically follows certain patterns. There is a high concentration of illiteracy among ethnic and cultural minorities. At high risk are: those belonging to tribes, castes, races, religions, and language groups outside the mainstream of society; populations in relatively remote or inaccessible regions; the poor; and women who, as a result of discrimination, constitute the majority of those denied access to education.

Countries with 10 million and more illiterates aged 15 and over in 1990

Country	Illiteracy Rates (%)	Number of Illiterates (millions)	Proportion of World Total (%)	Proportion of World Total (cum. %)
India	51.7	280	29.1	29.1
China	26.5	222	23.1	52.2
Pakistan	65.1	43	4.5	56.7
Bangladesh	64.7	42	4.4	61.1
Nigeria	49.2	29	3.0	64.1
Indonesia	22.9	27	2.8	66.9
Brazil	18.7	18	1.9	68.8
Egypt	51.5	16	1.7	70.5
Iran	46.0	15	1.5	72.0
Sudan	72.8	10	1.0	73.0
Sub-Total (10 countries)		702	73.0	
World Total		963		100

Source: Basic Education and Literacy: World Statistical Indicators UNESCO, *Office of Statistics 1990*

Literacy as a measure of progress

The degree and persistence of illiteracy reflect structural imbalances in any society; in particular, the uneven distribution of political and economic power; the uneven way in which political and economic policies and priorities are determined; and the organization of systems and institutions to implement those policies.

The extent of illiteracy reflects a nation's failure to attach high priority to principles of social justice—something that afflicts both industrialized and developing countries. It has been well demonstrated that progress in literacy is not strictly tied to a nation's economic status. There are an estimated 30 million 'functionally illiterate' adults in North America. Some of the poorest countries, or regions within countries, have made very substantial gains in both adult literacy and primary education in recent times, while others with substantially higher national incomes lag far behind.

A participatory approach must be developed in which the broad spectrum of social, cultural, religious, labour, and professional organizations can contribute to a mass education movement. Rather than attempt to manage and control the education process, the main task of governments should be to create a national learning environment in which all sectors of society can participate.

A close look at the magnitude of illiteracy and recent efforts to deal with it in various parts of the world leads to the following conclusions:

- No serious or lasting impression on illiteracy is possible unless children are brought into the primary education system and retained there long enough to achieve a self-sustaining level of literacy.
- The political and social constraints in most developing countries with a large and continuously replenishing pool of illiterates, make the goal of universal or near-universal literacy within one or even two decades quite unrealistic for many countries given their present economic difficulties and limited resources.

Practical steps

Lessons from both large-scale nationwide literacy campaigns and movements, as well as from regular programmes in recent decades, suggest a number of operational steps to mount and sustain literacy promotion.

Massive illiteracy goes hand in hand with an absence of primary education opportunities for large numbers of children. Any plan to significantly reduce adult literacy must start with an effective plan to expand the reach of primary education. The aim must go beyond enrolment to provide a self-sustaining level of learning.

While literacy programmes should offer the widest possible opportunities for the interested student, a realistic strategy demands that priorities be set within an established time frame. To address large-scale illiteracy, a logical priority would be to reach young adults who are more likely to be motivated to learn and to immediately put their knowledge and skills to use.

Special attention is necessary to overcome the religious, social, cultural, and economic barriers to education for women, because they are victims of age-old discrimination and because their literacy could have a positive direct impact on the well-being of their children and families. The most potent weapon against these barriers will be public opinion, but measures will have to be taken simultaneously to overcome economic or logistical obstacles to equality, including the overburdening of women with daily chores that deprive them of time and energy to participate in literacy programmes.

Literacy programmes, complemented by expanded and effective primary education, must also be reinforced and supplemented by a network of opportunities for diverse and continuing post-literacy learning. All channels of communication and education must be harnessed to create a "learning society" in which a culture of literacy can be nurtured. Literacy can only be kept 'alive' if communications technology is fully used to disseminate widely useful knowledge and information that can make a difference to people's lives.

A participatory approach must be developed in which the broad spectrum of social, cultural, religious, labour, and professional organizations can contribute to a mass education movement. Voluntary organizations and community groups that address people's urgently felt needs can often be the best vehicles for literacy and continuing education. Rather than attempt to manage and control the education process, the main task of governments should be to create a national learning environment in which all sectors of society can participate.

Additional public resources, both budgetary and as a percentage of national income, must be directed to basic education, and particularly towards primary education, literacy, and post-literacy learning. The budget priorities of many developing countries clearly need rethinking. Developing nations also have to consider ways of mobilizing all avenues of non-governmental financing in support of a mass literacy effort.

There has to be a more rigorous approach to setting meaningful measures of literacy than the casual methods prevailing in many countries. Systems for monitoring and assessing individual literacy achievements as well as national progress in this area must be developed and applied systematically.

Teaching and learning methods specifically for adult literacy, the training of instructors, the question of which national language to teach in, the measurement of progress, learning content, and the production and distribution of learning materials–all need professional attention, especially if many local organizations are expected to be active in literacy efforts. One approach found useful in this regard has been the development of networks of resource centres to provide local organizations with technical support.

Further reading

Adult Literacy in the Third World: A Review of Objectives and Strategies, by Agneta Lind and Anton Johnston. SIDA. Stockholm. 1990.

Literacy Lessons. Forty pamphlets on aspects of literacy for International Literacy Year 1990. International Bureau of Education. Geneva.

ADULT LITERACY

	Adult literacy rate*			
	1975		1985	
	Male	Female	Male	Female
LATIN AMERICA & CARRIBBEAN	**79**	**71**	**89**	**84**
Argentina	94	92	96	95
Bolivia	68	46	84	65
Brazil	69	63	79	76
Chile	90	88	97	96
Colombia	79	76	82	82
Costa Rica	88	87	94	93
Cuba	86	87	96	96
Dominican Rep.	69	65	78	77
Ecuador	75	68	85	80
El Salvador	61	53	75	69
Guatemala	51	37	63	47
Guyana	94	89	97	95
Haiti	26	17	40	35
Honduras	55	50	61	58
Jamaica	96	97		
Mexico	78	69	92	88
Nicaragua	58	57		
Panama	81	81	89	88
Paraguay	85	75	91	85
Peru	81	60	91	78
Trinidad & Tobago	95	89	97	95
Uruguay	93	93		
Venezuela	79	71	88	85
MIDDLE EAST & NORTH AFRICA	**47**	**17**	**70**	**40**
Algeria	39	11	63	37
Egypt	50	20	59	30
Iran, Islamic Rep.	40	17	62	39
Iraq	50	18	90	87
Jordan	64	29	87	63
Kuwait	65	42	76	63
Lebanon	79	58	86	69
Libyan Arab Jamahiriya	60	13	81	50
Morocco	34	10	45	22
Oman			47	12
Saudi Arabia	15	2	71	31
Syria	60	20	76	43
Tunisia	44	17	68	41
Turkey	69	34	86	62
United Arab Emirates	24	7		
Yemen	9	1	42	7
Yemen, Dem.	31	9	59	25
AFRICA SOUTH OF THE SAHARA	**29**	**14**	**54**	**31**
Angola	16	7	49	33
Benin	23	8	37	16
Botswana	37	44	73	69
Burkina Faso	13	3	21	6
Burundi	29	10	43	26
Cameroon	47	19	68	45
Central African Rep.	26	6	53	29
Chad	20	2	40	11
Congo	50	19	71	55
Côte d'Ivoire	26	10	53	31
Ethiopia	8	1		
Gabon	43	22	70	53
Ghana	43	18	64	43
Guinea	21	7	40	17
Kenya	44	19	70	49
Lesotho	49	74	62	84
Liberia	27	8	47	23
Madagascar	56	43	74	62
Malawi	42	18	52	31
Mali	11	4	23	11
Mauritania				
Mauritius	77	59	89	77
Mozambique	29	14	55	22
Namibia				
Niger	6	2	19	9
Nigeria	35	14	54	31

ADULT LITERACY

	Adult literacy rate*			
	1975		1985	
	Male	**Female**	**Male**	**Female**
AFRICA SOUTH OF THE SAHARA (continued)				
Rwanda	43	21	61	33
Senegal	18	5	37	19
Sierra Leone	18	8	38	21
Somalia	5	1	18	6
South Africa				
Sudan	28	6	33	14
Tanzania	48	18	93	88
Togo	27	7	53	28
Uganda	52	30	70	45
Zaire	61	22	79	45
Zambia	66	37	84	67
Zimbabwe	63	47	81	67
ASIA	**71**	**45**	**85**	**66**
Afghanistan	13	2	39	8
Bangladesh	36	12	43	22
Bhutan				
China			82	56
Hong Kong	90	64	95	81
India	47	20	57	29
Indonesia	66	42	83	65
Kampuchea		23	85	65
Korea, Dem.				
Korea, Rep.	94	81	96	88
Laos	37	28	92	76
Malaysia	71	48	81	66
Mongolia	87	74	95	90
Myanmar	85	57		
Nepal	23	3	39	12
Pakistan	30	11	40	19
Papua New Guinea	39	24	55	35
Philippines	84	81	86	85
Singapore	92	55	93	79
Sri Lanka	85	69	91	83
Thailand	86	72	94	88
Viet Nam			88	80
INDUSTRIAL COUNTRIES	**96**	**93**	**N/A**	
Albania				
Australia				
Austria				
Belgium	99	99		
Bulgaria	94	89		
Canada				
Czechoslovakia				
Denmark				
Finland				
France	99	98		
Germany, Dem.				
Germany, Fed.				
Greece	93	76	97	88
Hungary	98	98		
Ireland				
Israel	93	83	97	93
Italy	95	93	98	96
Japan	99	99		
Netherlands				
New Zealand				
Norway				
Poland	98	97		
Portugal	78	65	89	80
Romania	96	91		
Spain	93	87	97	92
Sweden				
Switzerland				
United Kingdom				
USA	99	99		
USSR	98	97		
Yugoslavia	92	76	97	86

Source: The State of the World's Children 1990, Table 4.
(For explanations and qualifications of specific figures, see notes there.)
* Percentage of persons aged 15 and over who can read and write.
Figures for country groupings are median values.

The Third Channel

In brief

> ***The Goal:** Increased acquisition by individuals and families of the knowledge, skills, and values required for better living made available through all educational channels, including the mass media, other forms of modern and traditional communication, and social action, with effectiveness measured in terms of behavioural change.*

In addition to formal (official, school-based) and non-formal (less official but structured) education, the "Third Channel" is a supporting, informal, educational medium, whose potential has scarcely been tapped. Wider use of this channel is essential to meeting the goals of education for all, and political leaders can do much to facilitate its wider use.

What is it?

Learning takes place in many contexts. In addition to educational activities organized around a specific curriculum, usually ending with certification of students – often categorized as "formal" (e.g. in Ministry of Education primary schools), or "non-formal" (e.g. community-based literacy classes for youth and adults, skills training in agricultural cooperatives, non-governmental community schools) – there exists in most countries a proliferation of broader "informal" learning opportunities taking place in many settings and communicated through a variety of channels. This informal grouping is collectively referred to as the "Third Channel".

Communicating basic learning needs for living

The range of skills and knowledge communicated through the Third Channel goes well beyond the essential learning tools of literacy, numeracy, or problem-solving to a wide range of behavioural skills, knowledge, values, and attitudes required if the individual is to be able to act in and react with his or her environment – basic learning needs for survival, development, and living.

The communication channels and opportunities that make up the Third Channel are particularly suited to communication of this range of knowledge, where behavioural change is the principal focus.

Components of the Third Channel

The constituent components of the Third Channel are many and varied, and may include:

- religious, social action, cultural and community communication channels, and leaders;
- political institutions, parties and leaders, mass organizations, lobbying groups;
- any location where life skills and knowledge are communicated: the village health unit, community center, agricultural cooperative;
- traditional and modern means of mass communication: traditional folk drama, mass meetings and rallies, print media, radio, television, computer;
- advertising;
- face-to-face communication between individuals.

In summary, the Third Channel encompasses a wide range of intersecting national and local channels, limited only by the imagination, will, and capacity to make them work. Through the Third Channel, all sectors of society and all channels of communication can be mobilized in pursuit of meeting the basic learning needs of all.

Growing potential of the Third Channel

The significance and potential impact of the Third Channel on the process of meeting basic learning needs has increased dramatically in recent decades with the convergence of two major forces: the exponential growth in information and knowledge essential to survival, living, and well-being and the acceleration of the world's technical capacity and outreach in communications, through the use of new communication technologies.

In every society and particularly in today's industrial societies, learning takes place in many contexts other than the school alone – in the home, in the community, at the workplace, with peers – and modern means of communication, in particular television and radio, provide a constant stream of messages that greatly influence, for better or for worse, knowledge and behaviour.

The Third Channel reaches into every corner of the life of the individual, community, and nation. National leaders have a crucial role to play in mobilizing the Third Channel to meet basic learning needs.

Basic education: a national responsibility

Political commitment at the highest level is required to assert that the responsibility for meeting basic learning needs is national and multisectoral, and goes well beyond ministries of education to include a broad range of partners within and outside government and from central to local levels. National leaders can play a key unifying role in bringing together a broad spectrum of leaders from religious, cultural, social, political, and other spheres to participate in the national mission of achieving education for all.

The Third Channel can generate new partnerships and resources for basic education that might otherwise be closed to it, both nationally and internationally. There are major investments going into social communication from which basic education can benefit, as did Child Survival and Development in the 1980s.

As endorsed at the World Conference on Education for All in Jomtien, Thailand, in March 1990, national leaders are urged to establish a multisectoral national task force to examine (or re-examine) the question of what are the basic learning needs of the society and what are the new and existing partnerships that might be employed to meet the basic learning needs of all.

On the basis of the above assessment, the specific role of formal, non-formal and informal channels of learning can be defined. The Third Channel can generate new partnerships and resources for basic education that might otherwise be closed to it, both nationally and internationally. There are major investments going into social communication from which basic education can benefit, as did Child Survival and Development in the 1980s. The commitment and direction of national leaders is essential to minimize potential problems of co-operation and co-ordination among many partners in utilizing the Third Channel for basic education purposes.

Prototype Communication Messages

While basic learning needs are country- and culture-specific, UNICEF does believe, based on its experience with *Facts for Life* that there is a place and a necessity for the development of a set of prototype communication messages that can be adapted for local use, getting more and better information to those who can use it, while helping to reduce the costs involved in developing new concepts and new techniques.

Facts for Life is a joint initiative of UNICEF, WHO, and UNESCO with the support of more than 100 international and regional organizations and non-governmental organizations (NGOs). It contains information, in very simple language, on subjects such as the timing of births, safe motherhood, breastfeeding, child growth, immunization, diarrhoea, coughs and colds, home hygiene malaria, and AIDS. By demystifying health knowledge and putting it into the hands of families, it seeks to empower them with the knowledge and confidence needed to protect and promote family health. National leaders can help to develop an intersectoral commitment to nationally relevant "Facts for Life". *Facts for Life* has had an impact with communicators because it is clearly presented, informative, useful and adaptable in many different conditions. In the year since its launching, it is already being used in some 55 country programmes, has been or is being translated into 80 languages, and has stimulated in-country preparation of new chapters on issues specific to individual countries. This experience is directly applicable to the Education for All initiative and the broader definition of basic learning needs.

Developing national communication policy

National leaders can play an important role in the development of a coherent national communication policy and strategies to ensure coordination between bodies responsible for various channels of communication in a nation. The existence of a guiding philosophy for communication programme development is essential if the many channels grouped under the Third Channel are to assume their social responsibilities in meeting the basic learning needs of all. Such a guiding philosophy also helps to avoid inter-agency duplication and waste.

Modern mass media

While the Third Channel comprises many channels of communication and partners, both traditional and modern, there are some specific elements of national leadership required to optimize the use of modern technological means of mass communication in particular.

National leaders can encourage the media to utilize their educational potential to the full. The assumption of such responsibilities implies both the allocation of communication sector resources to social programming and to increasing the percentage of broadcasting hours devoted to direct or informal educational purposes. The FAO has recently estimated that at present only 5 per cent of broadcasting hours in developing countries is devoted to educational purposes; 95 per cent is devoted to entertainment and propaganda.

In countries where the government is not solely responsible for media management, where commercial broadcasting exists, can one expect socially responsible programming in such a free-market environment? The Children's TV Workshop (Sesame Street, with its spin-offs in many countries); the Rede Globo TV network in Brasil; the interest of Disney and

Hanna-Barbera in animation for development – all illustrate that, with evidence of a clear benefit, either in terms of profitability, good commercial politics, or goodwill gained from shouldering a social responsibility, social programming can attract private producers.

National leaders can promote intersectoral assessment of the impact of mass media and problems that may exist in population coverage. For example, in one country the national broadcasting corporation has the technical capacity to reach 85 per cent of the rural population. But a national survey revealed only a 15 per cent listenership. What is the problem? Is it in terms of content or relevance to people's lives? Is it a technical problem of quality of reception? Is it a problem of logistics or economics – for example, the availability of batteries and the ability of people to pay for them? National leaders can call for a review of programme content, quality, and technological alternatives to resolve technical problems.

New partnerships between national and international leaders and organizations are required to ensure that resource-poor countries have access to modern technologies. For example, a recent international report challenges the view that information technology is a luxury that Africa cannot afford. On the contrary, the report argues that African countries cannot afford to pass up the opportunities that this technology presents. Their development depends heavily on the efficient communication of information.

Thus, problems of foreign exchange shortage, system incompatibilities, lack of infrastructure or trained personnel, may not be automatic reasons for moving down a few rungs on the technology ladder. They present a challenge for both countries and international institutions to resolve together.

Conclusion

The Third Channel can be a valuable complement to formal and non-formal basic education opportunities. But it can only be so if national leaders challenge communicators in many walks of life to assume their role in meeting the basic learning needs of all; if they make this national challenge intersectoral in scope, requiring many partners and resources from many different areas; and if communication for basic education is underpinned by a guiding philosophy and national policy to ensure maximum benefit for all.

Further reading

There is still very little written work covering the broad scope of Third Channel activities. Useful examples from the health sector include:

Communicating for Health: Agent for Change. A joint publication of UNICEF and WHO (See also the film "Agent for Change", available from UNICEF).

Facts for Life, UNICEF, 1988.

PART SIX:

Children in especially difficult circumstances

Introduction

Perhaps 15 per cent of children world-wide live under what are termed "especially difficult circumstances." These include over 100 million children working in hazardous or exploitative conditions, 50 million living on the streets, over 100 million who are abused or neglected in homes and institutions, plus over 20 million refugee or displaced children including those who have been physically or psychologically traumatized by armed conflict or natural disasters.

The following pages focus on only two of these issues: children in hazardous work and children in armed conflict situations. Consideration is given to physically disabled children in these situations.

Such problems as child abuse and neglect, violence in society, drug abuse, family disintegration, poverty, and armed conflict are all interrelated, but the web of causation is very dependent on local circumstances and is as yet too imprecisely defined to allow a co-ordinated universal approach to their solution. International conditions affecting national economic structures have also contributed to urban poverty and the increase of child labour, street children, and child neglect in developing countries.

Children in armed conflict

In brief

During the past decade, more than 1.5 million children in poor countries have died as a direct result of war. Yet death is only the most dramatic and widely reported effect of armed conflict. For every child killed, three more have been wounded or physically disabled, and many more have been psychologically scarred.

War's all-embracing impact on a child's development envelops attitudes, relationships to people and society, moral values, and the mental framework for understanding society and life itself. Of necessity, many children of war adopt defiance and violence as a way of life, thus perpetuating the probability of future armed conflict.

The time is ripe for a global consensus on the concept of *Children as a Zone of Peace*. Such a commitment by the world's governments would protect children from armed attack and terrorism, and would ensure their exclusion from the forces of armed combat. It would also provide them with secure access to health, education, and social services in times of war, while exposing them to peaceful strategies for conflict resolution.

An estimated 22 million people have died in some 127 armed conflicts since the Second World War ended in 1945. The greatest impact has been felt by children, with the 39 wars of the past decade alone exacting a toll of 1.5 million children killed. In that same period, 4 million children have been physically disabled and 10 million psychologically traumatized.

Although almost all wars and war casualties occur within developing countries , over 80 per cent of military expenditures and 90 per cent of all arms exports come from industrialized countries.

The proportion of civilian deaths and casualties, having risen from under 10 per cent during the First World War to over 50 per cent in the

Second World War, jumped to over 75 per cent in the last decade. Until 1980, war deaths and casualties overwhelmingly occurred in Asia, but the carnage has since shifted to Africa, scene of two million of the last decade's three million war-related civilian deaths and casualties. All 15 current armed conflicts in developing countries are internal.

The mounting tide of terrorism and military repression, the widespread use of high-tech weapons of mass destruction, induced famine and other forms of war directed against entire populations, have particularly devastating effects on societies' most vulnerable and defenceless, women and children.

The effects on children

Psycho-social trauma is the most widespread effect of armed conflict. Denied the security that promotes natural childhood development and subject to sustained stress over a prolonged period of time, many children express feelings of sadness and anxiety and demonstrate behavioural disorders of various levels of intensity.

Studies in Lebanon and other Middle Eastern countries indicate that children become obsessed with war in conversations, play, and drawings. Indeed, defiance and violence appear to be part of the psychological coping mechanism that enables children to compensate for the sense of powerlessness and diminished self-esteem that affects them in conflict situations.

Initiatives such as "Operation Lifeline" in the Sudan, "Days of Tranquillity" in El Salvador and Lebanon, and the work of organizations such as the International Committee of the Red Cross show that concern for children can overcome the most intractable conflicts and generate support for services and relief efforts intended to protect and sustain children.

Evidence from Afghanistan shows that the incidence of disabilities nearly doubles among children living in zones of armed conflict, not just because of physical injuries, but because conditions of war foster a higher incidence of polio, nutritional deficiencies, and psychological trauma. Most of these disabilities are permanent and their effects are cumulative. War-induced trauma can even be transmitted across generations, as evidenced by the continuing need for therapy among families of Holocaust victims and survivors.

Attitudes, cultural restrictions, and ignorance, as well as a lack of resources, services, and trained personnel, all compound the problem of helping war-disabled children in developing nations. In situations of armed conflict, existing rehabilitation services are usually geared to adults, particularly fighting men and the military.

For example, in Angola and Mozambique, less than 20 per cent of the children (in some cases, less than 10 per cent) receive low-cost prosthetic devices. In Nicaragua and El Salvador, services are available for only 20 per cent of the children in need. Among Afghan refugees, somewhat less than 10 per cent of those being served rehabilitatively are children. There is a waiting list of up to one year for prosthetic devices for the Afghan victims of mine accidents.

In some instances, the very expense of replacing prosthetic devices as children grow and change is often used as a rationalization for ignoring their needs altogether. That lack of intervention means that deformity accelerates with continuing skeletal growth. Proper and specially designed services have to be provided on a long-term basis.

Child combatants aged under 15 are systematically conscripted, and sometimes forcibly abducted or "press-ganged" to serve in armed forces. The numbers are unknown, but anecdotal evidence from Mozambique, Afghanistan, Iran, and Iraq indicates that there are hundreds of thousands of child soldiers.

The "Children as a Zone of Peace" concept should focus on safeguarding children from direct combat and terrorism in areas of armed conflict, ensuring that they are not separated from their families and that children's services and facilities are protected from disruption.

Once recruited, the children are trained in ways designed to destroy their links with family and community and to alter their moral values, all in the name of teaching them to kill. Accounts exist of incidents where combatants have forced children to participate in the murder of their own families.

Displaced and refugee children, who number approximately 15 million, suffer the additional traumas of being uprooted from home and resettled. Shifted from one temporary camp to another, the displaced are often subject to military control and not allowed to re-establish a normal life. Unlike refugees, who having crossed borders are eligible for support and protection from such international organizations as UNHCR, the displaced have no such guarantees since they remain within their own country. This becomes a substantial problem where access to relief and rehabilitation has been restricted by one or both parties to the internal conflict.

The numbers of unaccompanied children, already a problem in many poor countries, swell during periods of armed conflict. In the absence of family support, coping with and recovering from the trauma of war is even more difficult.

Children are separated from their parents for many reasons: the death, capture or "disappearance" of parents; abandonment; abuse that drives them from the home; their abduction by the armed forces; or simply getting lost in the confusion of an evacuation. Clearly, special efforts are needed to protect and preserve the identity, nationality, and rights of unaccompanied children.

Protection and services for children in armed conflict

International conventions are not always relevant or enforcible in terms of providing care and protection for children caught up in internal armed conflicts. Essential relief services are often severely restricted where a government is unwilling to co-operate or where it cannot ensure the security of such efforts.

Some breakthrough agreements have been achieved by with conflicting parties to enable delivery of relief supplies and immunization services for children. Most recently, UNICEF and other agencies negotiated "Days of Tranquillity" in El Salvador and Lebanon to allow the vaccination of children and "Corridors of Peace" in the Sudan to allow relief supplies to women and children in zones of conflict.

In the case of El Salvador, combatants in the country's long civil war have stopped fighting each year to enable health teams to immunize the nation's children. This massive effort was achieved through a co-ordinated campaign by the El Salvador Ministry of Public Health with the active support of UNICEF, the Pan American Health Organization, the International Committee of the Red Cross, the Catholic Church, non-governmental organizations (NGOs), and other bilateral agencies. Each year immunization cease-fires have taken place for one Sunday in February, March, and April.

In Lebanon, "Days of Tranquillity" in 1987 saw various factions refrain from fighting and turn their military transport and communication networks over to the service of the vaccination campaign. Newspaper headlines proclaimed the event with the headline, "For Three Days All The Shots Belonged To UNICEF."

In mid-1989, "Operation Lifeline," the United Nations co-ordinated famine relief initiative for civilians in southern Sudan, succeeded in negotiating "Corridors of Peace," allowing access for relief supplies and vaccines.

These initiatives and the work of organizations such as the International Committee of the Red Cross show that concern for children can overcome the most intractable conflicts and generate support for services and relief efforts intended to protect and sustain children.

Even where assistance to people in rebel-controlled areas might be formally impossible because of the political implications, tacit, informal agreements have permitted relief and medical services to reach affected children. Such informal agreements could be greatly expanded and legitimized by a strong international consensus on "Children as a Zone of Peace." The problem is to gain access to the children and to win political and financial support for their protection and rehabilitation on the scale required.

Children as a zone of peace

The Geneva Conventions of 1949 specifically deal with issues of children in armed conflict. They preclude all participation in hostilities of children below the age of 15, and require that "all feasible measures be taken to ensure the protection and care of children who are affected by armed conflict."

These conditions are reiterated in Article 38 of the Convention on the Rights of the Child. And Article 39 posits, "States' Parties shall take all appropriate measures to promote physical and psychological recovery and social reintegration of a child victim of...armed conflicts."

These conventions, however, have not elaborated how children affected by armed conflict are to be cared for, protected, and rehabilitated, nor have they proposed specific actions or a code of conduct to achieve these goals. An international consensus on "Children as a Zone of Peace" would help ensure that all conflicting parties would protect children and allow access for relief and rehabilitation efforts.

The Zone of Peace concept should focus on safeguarding children from direct combat and terrorism in areas of armed conflict, ensuring that they are not separated from their families, and that children's services and facilities are protected from disruption or occupation by parties to a conflict. It should also guarantee that children would neither be recruited into armed forces nor used in any capacity that might endanger their lives, health, or psycho-social development. Furthermore, all children adversely affected by armed conflict should be provided appropriate physical and psycho-social rehabilitation. Also, education and psycho-social rehabilitation of children should include peace education and training for the peaceful resolution of conflicts.

If these points were to be universally adopted, the world could find the means to provide protection, relief, and rehabilitation for all children affected by armed conflict.

The 1990 UNICEF Executive Board adopted a resolution for "creating a more peaceful world for children". The resolution "calls upon all States of the international community, as they reduce military expenditures ... to consider how they could channel part of the resources released to support country actions to reach the goals and objectives for the 1990s as set out by UNICEF."

A global network of concerned governments, NGOs, and UN agencies such as UNICEF, already actively works on behalf of children in armed conflict. The co-operation of all governments, however, is a prerequisite for success. A consensus of Heads of State or Government on "Children as a Zone of Peace" can be the embodiment of that co-operation.

Further reading

Children on the Front Line: The Impact of Apartheid, Destabilization and Warfare on the Children in Southern and South Africa. UNICEF . New York. 1987 (updated 1989).

Unaccompanied Children by Evert Ressler, et al. Oxford University Press. New York. 1985.

Betrayal: A Report on Violence Towards Children in Today's World, Caroline Moorehead ed. Doubleday. New York. 1990.

Working and street children

In brief

Child labour, street children, and the serious exploitation of working children remain widespread in developing countries, where families struggle for survival under the pressures of grinding poverty and growing consumerism. Many working children leave school or never complete even a rudimentary education due to their families' pressing need for income. In today's increasingly technological world, moreover, the perils of undereducation and deteriorating educational systems threaten the very economic survival of these children.

A multifaceted approach to the problem is needed encompassing legislation and enforcement, income generating opportunities and relevant educational and other services for working children.

While there is no accurate accounting of how many of the world's children contribute to their families' or their own economic support, the number of working children is surely in the hundreds of millions. Studies in some countries suggest that the number of street children is growing, just as the use of child labour continues to expand, often in hazardous and damaging conditions.

Working children are frequently exposed to jobs that are morally or psychologically damaging, hours that are excessive, conditions that are unsafe, or employment contracts that equate with slavery or, at least, with economic exploitation.

Also, the activities in which child workers are concentrated—agriculture, domestic service, and the urban informal sector—place them at high risk of maltreatment, denial of basic human rights, and lack of access to those who could help them.

Although such children are compelled to work by a combination of desperate poverty and community tradition, other factors including armed conflict, disasters, and rural-to-urban migration contribute to the number of working and street children.

A further inducement for children to work for money is the expanding array of consumer goods—radios, T-shirts, audio tapes, toys—available to them.

One consequence of the economic crisis in Third World countries is the ongoing deterioration of often deficient educational systems. Neither children nor parents see any benefit in giving up even a child's low wages for outmoded or irrelevant schooling that, when accessible, is frequently based on low-quality instruction.

By current estimates, about 20 per cent of primary school-age children in developing countries (about 100 million) do not attend school. Of those who do attend, one third drop out before completing four grades.

Yet, ironically, one of the main reasons why children work is to be able to afford school. Many Third World educational systems expect students' families to pay some fees, money the poorest families raise by putting their children to work before and after class. Many other children do not attend school because they cannot raise the necessary funds.

For many Third World families, the grinding burden of poverty has made reliance on their children's economic contribution an essential part of survival. In itself, that work may not be physically harmful, but today's definition of workplace hazards to children must be broadened to recognize the long-term harm stemming from inattention to a child's mental and social development, which can pose just as great a threat to his or her future as do permanent physical injuries.

On a national scale, the damage to children in the workplace undermines a country's social and economic progress far into the future. With economic survival becoming more dependent on brains than brawn, reducing child labour abuse is an important element of national economic development planning, as well as a social welfare concern.

Where the world stands now

Child labour was one of the first and most important items targeted for international co-operation. Since 1919, when the newly formed ILO adopted a convention fixing a minimum age for children's employment in industry, severe child labour problems in many countries have yielded to public pressure, regulation, and enforcement, particularly in the more visible factory and business sector.

However, the war on child labour abuse is far from over. In the formal sector, child workers continue to face serious maltreatment due to ineffective enforcement and public apathy.

According to one study, less than 6.2 per cent of the child brickworkers surveyed in Colombia had completed primary school. Yet as evidenced by another study in Egypt, many children must work to afford primary school. There, only about half of the child leather workers (70 per cent of whom were working more than eight hours per day) were attending or planned to attend school. Depending on the number of children, the cost of education could amount to as much as one third of total household income.

The foremost remaining task in protecting working children is to find ways to combat the abuse of the large number of children not reached by existing measures...substantial legislative and administrative modifications may be required.

Major industries in some countries continue to depend heavily on cheap child labour. The Indian Government reports that children made up 37.5 per cent of the workforce in the carpet industry in 1985. Government efforts to raise the minimum age for such work to 14 have been resisted by employers who threaten to shut down their factories if they cannot hire younger children.

The "informal sector" made up of small, unregistered, or illegal shops and factories hides large numbers of working children who are at risk. Their workplaces are often unknown to labour inspectors. Their employers frequently deny or understate their existence as a workforce. Finding ways to combat abuse of the large number of children currently beyond the reach of existing measures has to be the foremost remaining task in protecting working children.

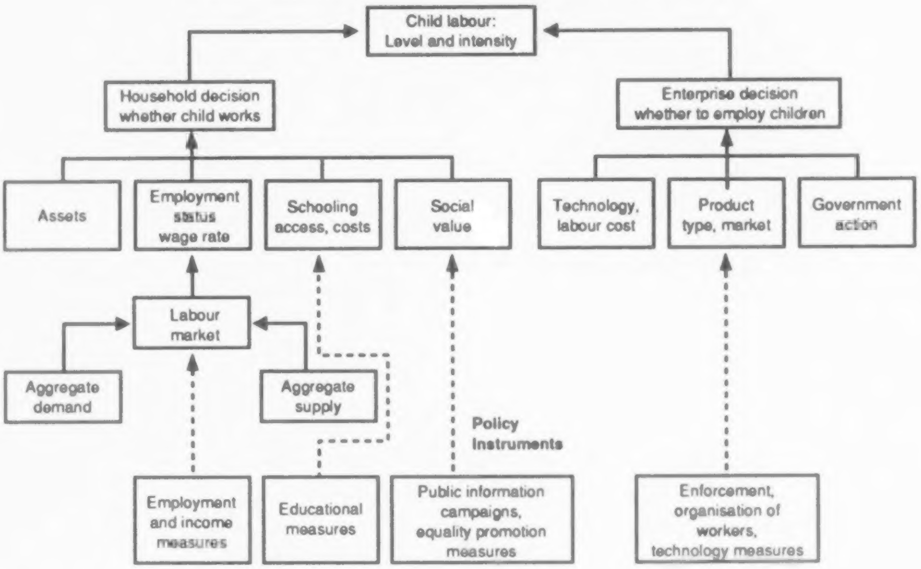
Some policies and programmes which have proved effective in urban factory and office settings could be extended to protect children in other circumstances. However, substantial legislative and administrative modifications may be required. National child labour legislation frequently exempts agriculture, small business, or household service—precisely the sectors in which most children work. It is also likely that special programmes or projects will be necessary to reach street children, agricultural labourers, domestics, and children in unregistered factories and brothels.

Planning programmes

The complex nature of the child labour problem calls for a multifaceted approach worldwide (see chart on next page), encompassing not only legislation and enforcement, but also action to help children generate the income they need and to provide working children with relevant education and other services. Governments, with NGO backing, must take a leading role regarding policies, regulations, and information campaigns for this attack on child labour abuse to be effective.

To start with, governments could launch low-cost national child labour reviews as part of their preparations for the 1992 ILO symposium on child labour, which aims at a renewed global commitment to fighting child labour abuse.

Child labour: a policy framework


Child labour: Level and intensity
Household decision whether child works
Enterprise decision whether to employ children
Assets
Employment status wage rate
Schooling access, costs
Social value
Technology, labour cost
Product type, market
Government action
Labour market
Aggregate demand
Aggregate supply
Policy instruments
Employment and income measures
Educational measures
Public information campaigns, equality promotion measures
Enforcement, organisation of workers, technology measures

Source: Combatting Child Labour, p. 15

These reviews should incorporate a thorough investigation of the child labour situation, in both formal and informal enterprises, with top priority given to identifying those children whose work constitutes a serious threat to their lives or to their physical, mental or social development.

Current public laws, regulations, and programmes designed to protect children from child labour abuse should be evaluated and strengthened to ensure more effective protection from workplace abuse.

Government efforts to assure free universal basic education to poor children could accomodate working children by instituting more flexible hours in existing schools or by arranging with employers for lesson time in the workplace.

Governments could also promote the establishment of national and local committees to monitor and publicize the situation of working children, while augmenting the efforts of labour inspectors, child welfare officers, and others responsible for protecting children against maltreatment in the workplace. (Trained volunteers can assist where budgets do not permit the hire of enough labour inspectors or child welfare workers to cover hard-to-reach workplaces).

Governments, the media and NGOs could take steps to inform children, parents, employers, and others about the dangers of child labour abuse, the rights of working children, and the laws and regulations in force in the country. Children can be taught what working conditions to expect and whom to get in touch with when their employers break the rules.

These measures entail minimal financial outlay. All that a national situation review requires is government leadership. Developing a basic education curriculum that is relevant to the community, available free to poor children, and takes into account the special needs of working children, falls within the purview of efforts to improve any public education system, and therefore requires no additional expenditure.

Innovative measures

Africa, Asia, Latin America and the Caribbean abound in small projects that can be replicated or adapted to serve the needs of working and street children in other circumstances and locations.

In Brazil, CESAM, a church-run group trains children in various job skills as well as informing them of their rights as workers, sets specific working conditions in written contracts with employers, and successfully recovers training costs from employers.

In Asia, comic-style booklets help children cope with work-related problems. Readily understood even by semi-literate child workers and lower grade school children, the booklets can easily be adapted into other languages for use in other regions and situations.

Nairobi's Undugu Society offers education to working and street children in four low-income settlements, using regular school facilities with a modified curriculum and flexible hours to suit working children's needs. Bangladesh's Underprivileged Children's Education Programme offers similar services to more than 10,000 children, providing them with hot meals and health services as well.

Salão do Encontro in Brazil teaches working children new vocational skills alongside the standard curriculum. The children are introduced to a wide range of production skills, including furniture, toys, handicrafts, vegetable growing, and animal husbandry. A Khartoum project trains Sudanese children to work as delivery messengers, equipping them with bicycles.

Since it is not feasible or practical to end child labour, particularly among the poorest groups, governments can act during the 1990s to protect such children from abuse, provide them with meaningful training, and institute flexible educational programmes that can bring schooling to children unable to attend conventional classes.

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PART SEVEN:

Cross-cutting concerns

The girl child: an investment in the future

In brief

Gender equality needs to be a clear objective and measure of childhood development. The 1990s could be the decade in which, finally, every opportunity is given to the girl child to acquire equal status to ensure that she grows and develops to her full potential in every nation. Assuring equitable access for the girl child to health, nutrition, work parity, and education demands the committed support and backing of the family, private voluntary and non-governmental organizations (NGOS), and governments.

In many countries today, the girl child has a lower status and enjoys fewer childhood rights, opportunities, and benefits than the boy child who has the first call on family and community resources. With the girl child begins the process of inequality that the adult woman finds so difficult to overcome.

Even where poverty is not an overriding factor in childhood development, gender inhibits equal opportunities for girls. Customs and laws frequently make the girl child "the lesser child". Expressions such as the Arab "Why the silence? Has a girl been born," or the Korean "A girl lets you down twice, once at birth and the second time when she marries," testify to this lesser status. Family preferences tend to favour boys over girls; family decisions in the distribution of food, labour, health care, and access to schooling and other life-changing opportunities usually benefit boys more than girls.

Addressing the needs of the girl child could be the key to achieving a more equitable status and role for women in the long run. Of even greater urgency, however, is the need to ensure her right as a person to the full benefits of childhood.

Issues and trends

Defining the girl child requires gender-specific data which, school statistics aside, barely exist. The age of the girl child might broadly be defined as ranging from 0 to 19 years, the age ceiling differing according to country and culture.

The real gender differential in children is rooted in cultural perception. Anecdotal evidence indicates the pride with which a newborn male child is welcomed in several cultures, and, as cited above, the gloom and cynicism that greet the baby girl.

Parents often have higher aspirations for the boy child than for the girl child. Their expectation that the girl will and must marry somehow reduces her value, especially where a dowry is a condition of marriage since this reinforces the view of the girl as an economic liability. As a consequence, the girl child ends up with fewer investments, rights, and childhood entitlements. Early marriage in many traditional contexts becomes the only "development" option offered to the girl child.

Although age at marriage has increased and adolescent fertility rates have declined worldwide, early marriage of girls is quite prevalent. It is estimated that of girls aged 15 years, 18 per cent in Asia, 16 per cent in Africa, and 8 per cent in Latin America are married. By contrast, boys marry when they are considerably older as is evident from the marital status data of several developed and developing countries (see table next page). Early marriage leads to children bearing children. The demands of maternity on younger girls further constrain their capabilities to enjoy a satisfactory life as children with the full benefits of children's rights to health, nutrition, education, and employment.

Unequal health development

The fact that gender-specific data on children's health are often not available or not sufficiently reliable is a telling comment on the neglect of the gender dimension in child health and demography. However, trend analysis of data from 1945 to 1983 reveals that higher female mortality in early childhood appears to be concentrated in countries with a high preference for sons over daughters and a correspondingly lower status and lesser care accorded to girls and women.

In 30 developing countries, death rates for girls between the ages of one and four years have been found to be higher than or equal to the death rates for boys. This contrasts with the industrial countries where deaths of boys in the one-to-four age group are consistently higher than the rate for girls.

Recent studies in several countries in Asia and the Middle East also show gender disparity in child health care. More male children are immunized and treated by hospitals than female children. Mortality due to measles, diarrhoea, and respiratory infections is higher among female children. Girls are weaned earlier; boys are breastfed longer; and girls are brought to hospitals usually in worse condition than boys.

The girl child's health vulnerability also stems from other social and cultural practices. In at least 25 countries in Africa, the Arab regions, and

Marital status of 15-19 year olds for selected countries by sex

Region\Country	Year	Female	Male
AFRICA		(percentage married)	
Botswana	1971	8.4	0.8
Burkina Faso	1975	53.4	3.9
Ethiopia	1982	53.2	5.2
Egypt	1976	21.1	3.7
Kenya	1969	33.4	3.4
Malawi	1977	47.3	5.8
Morocco	1971	30.9	3.8
Senegal	1976	33.2	1.1
Sudan	1973	41.0	4.2
Uganda	1966	46.2	6.5
United Rep. of Tanzania	1967	49.5	6.6
Zambia	1969	36.0	2.3
AMERICAS			
Argentina	1970	10.3	1.7
Bolivia	1976	15.7	3.8
Brazil	1980	16.0	2.3
Canada	1971	7.2	1.5
Colombia	1973	12.8	2.8
Costa Rica	1973	14.8	1.8
Cuba	1970	27.9	4.4
Ecuador	1974	18.1	3.7
Guyana	1970	14.5	1.5
Mexico	1978	20.1	4.8
Nicaragua	1971	20.0	3.9
Panama	1970	23.0	5.0
Peru	1972	16.1	5.3
United States	1980	8.2	2.7
Venezuela	1971	15.8	2.5

(continued next page)

Marital status of 15-19 year olds for selected countries by sex

(continued)

Region\Country	Year	Female	Male
ASIA			
Bangladesh	1974	71.8	7.4
Burma	1973	21.1	5.5
India	1971	56.3	17.4
Indonesia	1980	27.3	3.4
Iran	1976	33.9	6.4
Japan	1980	1.0	0.3
Korea	1980	1.7	0.2
Malaysia	1970	15.3	2.6
Nepal	1971	60.2	26.6
Pakistan	1981	30.7	7.3
Philippines	1980	13.0	3.2
Sri Lanka	1981	10.2	0.9
Thailand	1970	17.6	3.6
Turkey	1980	21.4	8.0
United Arab Emirates	1975	55.0	8.4

Source: Derived from United Nations Compendium of Statistics and Indicators on the Situation of Women. 1986, pp. 88-110

elsewhere, the practice of female circumcision places severe health risks, as well as emotional and pyschological strains, on an estimated 75 million girls as they enter adolescence and adulthood. This is clearly an area that calls for special advocacy and action in favour of the girl child.

Adolescent reproduction and early child bearing exact a heavy toll on young mothers and their children. National statistics from countries as diverse as Bangladesh, the Dominican Republic, El Salvador, Jamaica, Japan, Malaysia, Nigeria, the United Republic of Tanzania, and the United States of America indicate that girls aged 15-19 years are twice as likely to die in childbirth as mothers 20-24 years old. The risks can be five times as high for girls under 15 years of age. Such deaths are frequently caused by septic and rudimentary abortions.

The evidence points to the need to expand the coverage of health education, contraceptive knowledge and services, and the safe motherhood initiative to reduce the health and survival risks for girls and women.

Exploitative sexual practices, particularly trafficking, are also endangering the health of female adolescents on an alarming scale, a situation aggravated by rapid urbanization and socio-economic decline. The incidence and serious threat of sexually-transmitted diseases and AIDS among such girls should be a cause for serious concern to policy-makers, social planners, and development agents engaged in the protection of children's health and development.

Towards improved health for the girl child

The first step towards enhancing the health capability of the girl child is for concerned national, regional, and global bodies to recognize the problem of her greater vulnerability and to make commitments to meet her needs.

Governments, NGOs, and international development agencies must address the gender dimensions of (1) infant, child, and maternal mortality; (2) life expectancy; and (3) adolescent growth and reproductive care.

Health sector planning, programming, and budgetary allocations must reflect positive actions to bridge such gaps as may exist in coverage and benefits between boys and girls.

Traditional practices harmful to the girl's physical, mental, and emotional health must be abolished through appropriate policy and advocacy actions.

To ensure that the bearing of children by children stops, intensive awareness campaigns should be organized drawing on religious and social organizations as well as the traditional and modern media, leading to, among other things, legislative changes.

The burden on the girl child has to be reduced by increasing access to community-based child care, fuel, and water and sanitation services, thereby enabling her to benefit from health, education, and other socio-economic interventions.

Disparity in nutrition

There is evidence that gender differences affect child-feeding practices in several countries. A 1982 study of three-to-eight-month-old infants in Jordan showed that two-to-four times as many male as female infants received a wide variety of weaning foods, including eggs, fruit, meat, and vegetables. Fatty and milky foods are preferentially given to boys in India, while a more diluted weaning diet is fed to infant girls in Bangladesh. In several Latin American and African countries, protein foods are given to boys first.

Such gender discrimination results in the lower nutritional status of girls. A 1989 study in Pakistan showed 61 per cent of girls compared to 52 per cent of boys aged under five to be malnourished.

In many cultures, mothers consider their own nutritional needs secondary to those of male family members, an attitude they transfer to their daughters. Such cultural factors, combined with poverty, can result in small mothers giving birth to low birth weight babies.

Towards nutritional equity for the girl child

Public policy on food and nutrition must take into account the family's responsibility, not just that of the women but the men as well, in ensuring nutritional equity for the girl child. Public policy must also ensure that food is available and accessible.

Mothers, as food allocators in the household, and the men, including fathers, indeed, all care givers, should be sensitized, mobilized, and trained to promote the girl child's right to a fair share of food and the other resources necessary for her growth.

Gender-sensitive data collection, monitoring, and surveillance in nutrition has to be encouraged, and the knowledge so acquired used to design appropriate strategies and responsive programmes, as well as to increase public awareness of this issue.

Addressing the needs of the girl child could be the key to achieving a more equitable status and role for women in the long run. Of even greater urgency, however, is the need to ensure her right as a person to the full benefits of childhood.

The nutritional status of girls and young women should be bolstered through energy- and labour-saving measures such as improved food conservation and storage facilities aimed at *conserving* nutritional resources and *expanding* those very resources by encouraging cash or food subsidy schemes, supplementary feeding, home gardens, cash crops, and other skills.

The girl child as a source of "invisible" labour

Girls work in large numbers and for long hours in and outside the household, but their labour is unacknowledged or under-represented in formal labour statistics.

Recent studies show significant inequalities in the gender distribution of household tasks and other chores among children. In Java, most young girls spend at least one-third more hours per day working at home and in the market than boys of the same age. In some age groups, the difference is as much as 85 per cent more hours. Malaysian girls five to six years old devote 75 per cent more hours each week to home or market chores than do boys of the same age. In the Cote d'Ivoire, girls aged 10 to 14 work 3.5 hours and boys 2 hours at household tasks. Although Nepalese children of both sexes spend the same amount of time tending animals, girls spend more time in agricultural tasks, replenishing the household water supply, collecting fuel, and processing food than boys of the same age group.

Parental perception can also contribute to the underrating of the labour of the girl child. A study of the attitudes among 600 rural wives and husbands in Nigeria revealed that the majority of them believed that boys were more productive than girls of the same age. Men and women alike thought that parents should invest more in their male children, particularly on their feeding and schooling. Such parental attitudes explain why boys are often given greater opportunities to learn economically valuable skills than girls.

Making child labour less exploitative of gender and age

Since poverty often obliges children to work, solutions to child labour have to be linked to real efforts to alleviate poverty. The immediate need, however, is to make child labour less exploitative of both gender and age and more useful and gainful.

This call for appropriate legislation and training programmes to transform the compulsory aspect that underlies the very concept of child labour into an opportunity for the children to combine learning with earning.

Gross national productivity statistics and employment planning strategies should give greater visibility and added value to the work of the girl child, just like women's work.

Legal and welfare provisions should be introduced as necessary to eliminate exploitation while providing a safe and protected working environment for the girl child.

Gender disparity in education

It is in the field of education that social statistics of children have been most systematically collected and disaggregated. Out of more than 100 million children with no access to primary schooling in 1990, at least 60 million are girls. Of the world's almost one billion adult illiterates, two thirds are women. As long as the girl child is denied access to education or is forced to drop out of school early, such disparities in human development will continue.

While parity between boys and girls or even higher female enrolment has been achieved, for example, in the Caribbean and Latin America, as well as in Botswana, Lesotho, the Philippines, and Sri Lanka, substantial inequality remains in most developing countries. Currently, the percentage of 6-to-11-year-old boys and girls in primary schools was approximately 88 per cent and 72 per cent, respectively, in the Middle East and North Africa, 48 and 37per cent in sub-Saharan Africa, and 78 and 59 per cent in South Asia.

In 68 out of 83 developing countries, primary school enrolment ratios for girls are lower than for boys (in five countries, the ratio is between 28 and 45 per cent). At secondary level, 58 out of 78 countries have lower enrolment ratios for girls than boys.

Gender disparity in education is influenced by the lack of educational facilities and cultural norms, which hold that girls are only "born to marry" and, therefore, hardly worth educating. Gender stereotyping in school textbooks and curricula reinforce such negative perceptions.

Towards educational parity for the girl child

A primary education is a minimum requirement for improved female status, empowerment, and productivity. Education for women and girls is clearly a factor with singular beneficial effects on the quality of human life, infant and child survival and development, as well as economic productivity.

The renewed commitment of world leaders in the 1990 "World Declaration on Education for All" to "universalizing access and promoting equity" in education must and can be met. As the Declaration states:

> "The most urgent priority is to ensure access to, and improve the quality of, education for girls and women, and to remove every obstacle that hampers their active participation. All gender *stereotyping in education must be eliminated".*

In keeping with this goal, countries need to set specific targets and time frames within the current decade to reduce the primary-level gender gap progressively and to achieve gender parity in education by the year 2000. Concurrently, specific targets and time frames must also be established to reduce female illiteracy. A more comprehensive approach to educating girls through formal and non-formal channels with emphasis on social and educational parity for the non-formal system.

The training and recruitment of women teachers should be intensified so that they can serve as motivators and role models for girls and a campaign launched to ensure parental support and participation in educating girls.

To help boost enrolment and retention of young married girls and adolescent mothers in education, convenient child-care arrangements and supplementary feeding schemes should also be undertaken.

Enhancing the environment

A primary objective for family, government agency, intergovernmental agency, NGO, and voluntary development organizations should be to improve and enrich the environment for the girl child.

In the long term, all countries should commit themselves to the elimination of gender disparity and discrimination in childhood through appropriate political, legislative and development measures.

In the short run, specific time-frame measures should be launched to reduce disparities and reach the girl child within existing social development programmes.

Multidisciplinary research on the status of the girl child should be carried out and the findings disseminated widely to policy makers and development planners to ensure that her needs feature in all development planning.

Effective information and communication campaigns should be prepared and launched to create and reinforce awareness of these special needs and of the girl child's unique and tremendous human potential.

Further reading

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Children and the Environment

In brief

The need to protect the environment, emerging as a high priority on government agendas and in the consciousness of the world, is closely linked with the survival and development of children. Key to improving the welfare of children and the environment is the pursuit of sustainable and equitable development. Great disparities in wealth and consumption between and within countries contribute to both social and environmental disequilibrium. In empowering women and meeting the basic needs of children and their families for health care, adequate nutrition, access to clean water and sanitation, and education the world will ensure a fairer, more productive environment for all its people, now and in the future.

The June 29, 1990, London agreement by 93 nations to halt the production of chemicals that destroy the atmosphere's protective ozone layer has been hailed as the most significant international agreement ever reached on the protection of the environment. It further manifested a new international attitude, a willingness on the part of leaders and people on every continent to take action to protect the environment. This bodes well for the children of the world whose future depends so heavily on how adults deal now with environmental issues.

In recent years a relatively new way of looking at management of the environment, one that emphasizes "environmentally sound and sustainable development," has also captured the world's attention. Mindful that the children alive today are the first representatives of all future generations, the concept of sustainable development brings children and their needs to the forefront of considerations on development and environment.

Intergenerational equity

Sustainable development raises the issue of a new type of fairness and equity rarely considered before—that of intergenerational equity. The concept of intergenerational equity proposed in "Children and the Environment," a joint report by UNEP and UNICEF on June 5, 1990, encompasses the following three basic principles:

- Each generation is required to conserve the natural and cultural resource base, so that it does not unduly restrict the options of future generations.
- Each generation is required to maintain the quality of the planet so that it is passed on in no worse condition than it was received.
- Each generation should provide its members with equitable access to the benign legacy of past generations.

This concept of intergenerational equity must now take its place among concerns for equity between races and sexes. Achieving the latter two is proving difficult enough; attaining equity between generations is a more difficult goal. Unborn generations are not present to speak for themselves, so sustainable development requires that this generation accept responsibility for future generations.

In the past, it was assumed that succeeding generations would inherit a planet very similar to that inhabited by the current generation, with, perhaps, the added bonus of a safer, healthier, and easier life, thanks to new technology. This is no longer a justifiable assumption. The present generation is the first to be aware of the possibly Pyrrhic powers it possesses to radically change the planet's ecosystems, thereby bequeathing to its offspring a diminished inheritance of altered atmosphere, depleted soils, polluted water, and spoiled vegetation.

Thus justice between generations involves not only duties, but also rights, and not only between generations, but between members of the same generation.

Population, wasteful affluence, and poverty

Rapid population growth has a bearing on the issue of intergenerational equity. In addition to its planetary caretaker duties, today's generation also has a responsibility not to create a huge future generation, which present levels of natural resources, even if maintained, could not support.

While the population explosion is often regarded as the root cause of many of the world's environmental problems, analysis shows that the technologies and high levels of production of the industrial countries account for more of the world's pollution and environmental degradation than does the growth of population in developing countries. It is the gross disparity between unsustainable affluence and desperate poverty that pollutes our environment in more ways than one.

Unsustainable life-styles. Affluence is a major factor in environmental degradation. The industrialized countries, and, to a lesser extent, the affluent people in developing countries, are the major producers of household garbage, toxic industrial waste, automotive exhaust fumes, chlorofluorocarbons, and commercial deforestation. Besides harming the environment, the excessively wasteful consumption patterns of the affluent pose a serious danger to their own health and well-being as manifested in the increased incidence of obesity, cancers, hypertension, stress, and accidents in the industrialized world.

A life-style that depends on the wanton exploitation of non-renewable resources or resources that are used up much faster than nature can regenerate is unsustainable. For children, affluence of this type is as much a threat to their future as poverty.

Perhaps the greatest potential for environmentally sound development lies in empowering women in development in areas ranging from prenatal care and female literacy, to income-generating activities and leadership training for roles in community action programmes. Women are also important environmental educators.

Poverty and necessity. Interaction between poverty and environment leads to a downward spiral of degradation. Whereas the affluent pollute knowingly or thoughtlessly, the poor endanger the environment out of necessity. The environment of poverty perpetuates itself starting with poverty-stricken mothers overwhelmed by caring for large families, weakened by frequent pregnancy, rearing children whose basic needs of health, nutrition, and physical and mental well-being remain unfulfilled. The productivity of these children, when they reach adulthood, will remain well below their human potential, thus further exacerbating the vicious cycle of ill health and poverty.

Poverty at the national level has similar negative consequences for the environment. A major underlying reason for the ongoing destruction of the environment is the poverty and debt trap in which many developing countries find themselves. Countries cannot pursue sustainable economic policies when they are forced to deplete their forests, soil, water, and other natural resources to pay their external debt, provide for essential imports, and meet their basic budgetary obligations. Efforts to break this vicious cycle of poverty of nations, as well as of families and communities, is, therefore, an essential prerequisite to preventing further environmental degradation.

The degradation of the world's physical environment due to poverty, pollution, natural disasters, and unsustainable life-styles is both a cause and consequence of the degradation of the human environment characterized by high rates of mortality, morbidity, and fertility.

A family that is not able to protect its own children cannot be expected to protect the environment. A development programme that fails to address the basic human needs of the poor and vulnerable will not only be unsustainable, but it cannot be expected to elicit popular support and participation. Protection of the environment should, therefore, start with the protection of the most vulnerable element of the human environment—children.

Environment and basic needs

UNICEF believes that the pursuit of child survival, development, and protection through primary health care, nutrition interventions, education, and other measures is a pre-condition for establishing an environment conducive to sustainable development. Once the basic needs of survival, development, and protection are met, children as well as parents are enabled to be more sensitive to protecting the environment which nurtures and sustains the ability to meet such needs.

Once these basic needs are met, parents are also more open to family planning. When child death rates are high, parents often insure against an anticipated loss by having more children. Families which experience the death of a child are much less likely to use any method of birth planning.

Historically, sustained declines in birth rates have been preceded by sustained declines in child deaths. Programmes to reduce infant and child mortality, coupled with family planning programmes, will contribute to population stabilization sooner and at a lower level than either type of activity alone. (See the chapters in this sourcebook on Child Survival and Population Growth, and on Child Spacing.)

Both child survival and family planning need to be part of a broader approach to sustainable development, one that satisfies basic family needs for energy, food, and water, and overcomes disparities—whether these be ethnic, economic, or sexual—in access to these basics.

Women and environment

Perhaps the greatest potential for environmentally sound development lies in empowering women in development in areas ranging from pre-natal care and female literacy, to income-generating activities and leadership training for roles in community action programmes. Women are also important environmental educators.

A deteriorating environment means harder work for women, less food and care for children, and increased health hazards for both. In environmentally damaged areas of the Himalayas and the Sahel, for example, women and children are reported to spend from 100 to 300 days a year gathering fuel wood. Less time is thus available for more productive work and for child care, and less time and fewer resources are available for acquiring food. As less water is available for personal hygiene, children become more susceptible to infection by disease or parasites.

One of the most effective ways of improving the situation of children is, therefore, to improve the environment surrounding women. Women's status in society; the availability of maternal and child health care, including knowledge of child spacing; increased family income; and the availability of education for women are all strong determinants of family size. Improvement in the status of women is, therefore, an important way to reduce population growth and thus contribute to a better human environment and sustainable development.

Water supply and environmental sanitation

Water is essential for life, not only for human beings but also for all species of flora and fauna that share our environment. Just as clean water can give life and protect health, polluted water can ruin it. Proper management of water resources is, therefore, vital for the protection of the environment.

Safe drinking water supplies and the disposal of sewage and solid waste have become key public health factors in the Third World, where a large proportion of all diseases are considered to be water-related.

Countries cannot pursue sustainable economic policies when they are forced to deplete their forests, soil, water, and other natural resources to pay their external debt, provide for essential imports, and meet their basic budgetary obligations.

Water is probably the most important indicator of the quality of our environment. Furthermore, its availability in adequate quantities is a basic prerequisite for any development of agriculture, infrastructure, trade and/or industry. Clearly, it is the most important natural resource in need of protection.

Programmes and projects for the protection and conservation of water sources and the provision of clean water supplies for human consumption and for small-scale food production are important environmental contributions, as are programmes that support community action for better sanitation and water disposal, in both rural and urban situations.

Environmental awareness and education

The quest to meet rapidly growing food needs, combined with insufficient attention to the environmental impact of agricultural policies and practices, has been a major source of environmental degradation. It is known today that the world's food needs can be met without concentrating land resources in the hands of a few and that small farms can be as productive as large ones, even without heavy reliance on polluting fertilizers and pesticides. Policies favouring more equitable land distribution and promoting environment-friendly ways of assuring household food security can do much to reduce poverty and malnutrition while preserving the environment.

Food and environment

To assure basic education for all by the year 2000, as participants at the World Conference on Education for All in Jomtien, Thailand in March 1990 resolved to do, will be a major contribution to improving the environment. While it is essential to assure that children and illiterate adults achieve their rights to basic education, efforts must also be made to create appropriate perceptions of environmental problems, as well as solutions based on environmental awareness.

This can be done through all three centres of learning, the home, the community and the school, using formal and non-formal education and both traditional and modern forms of communication. Educated parents can instill patterns of behaviour that lead to marked savings in food, water, and energy consumption. Trained teachers can contribute much to increasing children's awareness of environmental issues. Effective environmental management will depend ultimately upon the widespread adoption of an environmental ethic—a code of conduct reflecting environmental awareness and the need for sustainable development.

The need for a global alliance

A recent opinion poll, conducted in 16 countries by Louis Harris and Associates for UNEP, shows that, world-wide, people are ready to accept more rather than less government regulation in environmental areas. The major environmental tasks require international solutions. Global warming, ozone depletion, acid rain, species depletion, tropical deforestation, and desertification are all now viewed as threats to all nations. The disposal of wastes has also become an international concern because toxic and hazardous wastes are crossing borders in increasing amounts.

All of these international issues are also intergenerational. Their effects are either difficult or impossible to reverse over the period of one generation. All increase concern for the welfare of children alive today and of children yet to be born. The achievement of environmentally sound and sustainable development will require actions by citizens as well as UN agencies and governments. Justice for children and for all future generations can only be gained through such a global alliance.

Further reading

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Urban children

In brief

The hazards of urban poverty take a high toll on children: tuberculosis, dysentery, meningitis, and measles are common in overcrowded slums. Poor sanitation, inadequate drainage, and pollution pose other risks: children live and play amidst mounds of rotting garbage and untreated human excrement.

The result is infant and child morbidity and mortality rates for the urban poor three or four times higher than the city's average. Unfortunately, accurate figures on the health, education, and nutritional status of poor urban children don't exist in many developing countries.

In fact, the urban poor remain largely invisible: slums don't appear on maps; schools may not serve the children of squatter settlements; and health and nutrition status is obscured by urban averages skewed by the high status of wealthier inhabitants.

Yet cost-effective primary health, sanitation, education, and nutrition strategies can help make the lives of the urban poor visibly better. And the poor themselves, if actively involved and organized, can be the most valuable partners governments have in reshaping existing situations.

The Third World's urban population is now larger than that of Europe (including the USSR), North America, and Japan combined: current estimates suggest a total of 1.4 billion people, with the total growing by over 50 million each year. Most Third World nations are still urbanizing and in many countries the process is rapid.

During the last three decades, top priority was generally placed on programmes addressing rural poverty. However, the equally urgent—and often sharply different—problems of urban poverty must not be ignored in the 1990s. The rate of urban growth alone calls for particular attention to the problems of cities' marginalized poor. Women, who more often than not head poor urban households, and children are the most vulnerable among the urban poor.

Health and environmental problems of urban children

In the slums and shanty districts of Third World cities, infant and child mortality rates—where they are recorded accurately—may be three or four times the city average, with comparable disparities in children's health and social well-being.

Diarrhoea, dysentery, typhoid, intestinal parasites, and food poisoning can be traced to the many hazards of urban children's environment, including untreated human excrement, open mounds of rotting garbage, and water pollution in the waterways and ditches used by children as "playgrounds."

Crowding in makeshift housing helps spread such diseases as tuberculosis, influenza, meningitis, and measles. Other health hazards include frequent flooding and the lack of paved roads. Statistics that indicate higher access to water and sanitation in urban than in rural areas obscure the fact that the drinking water available to the urban poor often contains pollutants from industrial activities, untreated sewage, and garbage dumping.

The most serious health hazards in many Third World cities would be reduced or eliminated if people's homes contained a safe water supply and provisions for washing, cooking, laundry, food storage, and waste removal. In sharp distinction to environmental problems in industrialized nations, the most pressing "toxic waste" problem in the Third World, as pointed out by Hardoy and Satterthwaite, is the need to manage and dispose of human excrement and other solid waste, something that can be accomplished relatively cheaply.

A shift in health strategies for the urban poor is also crucial, from fragmented, unco-ordinated public and private services to a concerted effort, on the part of health ministries, hospitals, medical schools, and leaders at all levels, to put primary health care (PHC) principles into practice.

Since the WHO/UNICEF conference on PHC in 1978 in Alma-Ata, such efforts have started in many Third World cities. The Aga Khan health service and hospital in Karachi, Pakistan, exemplifies such an integrated PHC approach. The health service has three categories of health workers: community health workers at the household and neighbourhood level; women health visitors, working from health posts to supervise the community health workers; and doctor/nurse teams, working from health centers to support the community health workers and health visitors. The referral system links the community with the base hospital, which is also committed to supporting PHC.

Training for new health professionals at the hospital involves supporting community health needs, establishing role models for new medical staff, and enlisting the collaboration of other sectors in improving health care.

Child nutrition and family consumption

Malnutrition is on the rise in Third World cities, according to the World Bank and other sources, where it is frequently more severe than among rural populations. Poor families in cities generally spend the major part of their income on food, and therefore suffer the most from the effects of recession and of structural adjustment programmes that have such side effects as rising unemployment, shrinking wages, and unstable food prices. As a result, even previously middle-income people are forced into poverty.

Extending basic services on a scale that would cover most settlements of the urban poor in developing countries is possible. It is feasible to provide access to land, cheap services, technical assistance, and credit facilities. To do this, the public sector needs to decentralize management schemes, assure occupancy rights to slum dwellers, facilitate informal sector businesses, and develop outreach extension services to community-based organizations, either directly or in collaboration with NGOs.

According to Caroline Moser's longitudinal study in the urban slums of Guayaquil, with the debt crisis, recession, and structural adjustment policies in Ecuador, the situation has deteriorated for the low-income population. Real wages have declined often to half their 1979 value, and work conditions have changed, with an increase in temporary and daily casual labour. Besides their heavy burden of domestic work due to the lack of water, services, and transport facilities, women also work increasingly out of the home. Female labour participation rates increased from 40 per cent in 1978 to 52 per cent in 1988.

Efforts to improve the nutrition of the urban poor need to include a variety of strategies. Nutrition education, societal support for breastfeeding, and similar measures can help solve child nutrition problems when there exists minimum food availability at household level. Interventions focusing on income and price policies, however, are of crucial importance when there is no food security at household level. When income and price policies are formulated, the survival patterns of the poor—some examples of which follow—need to be considered.

- The need to purchase water and fuel at exorbitant prices shrinks the meager incomes the poor earn from hawking, petty trading, and casual labour. The situation is exacerbated when more and more displaced people crowd into urban areas. They compete for or share limited income and resources with already-settled urban poor who are compelled to meet kinship welfare obligations towards newcomers.

- If land is available for the urban poor to raise crops or livestock near their settlements, food intake can be improved. According to a recent study, 64 per cent of the urban poor in Africa grow some of their own food, mostly in the rural or peri-urban areas. Recognizing this fact, the Governments of Malawi, Burkina Faso, and Niger encourage urban agriculture to increase urban food supplies.
- Non-formal economic transactions between rural and urban networks are mutually beneficial. Without intermediaries, the urban poor receive food from rural kinship sources, and cash availability in rural areas improves as a result.

Such initiatives, based on traditional networks, as well as on new forms of social organization such as communal meal preparation and co-operative stores, should be encouraged. Macro- and meso-level government policies linked to such local initiatives could develop management and decision-making schemes free of bureaucratic and political biases that characterized past experiences. Grameen Bank in Bangladesh, various credit schemes for petty traders in Colombia, and community kitchens in Peru are just some examples of local-level initiatives institutionalized along these lines. On the other hand, government-sponsored consumers' outlets targeted towards the urban poor, such as CONASUPO stores in Mexico and special food markets in Sao Paulo in Brazil, proved to be successful when consumers participated in their management.

Children's socialization and education

A great majority of urban children want to learn marketable skills and often work long hours to earn money for school fees. They frequently fail to fulfill their intentions, however, because of the more urgent pressure to help their families survive.

Often, education policy and laws in developing countries aimed at protecting children fail to address the real-life situations children face in struggling for survival. Such policies, based on the ideals appropriate to industrialized, affluent societies, set standards that are unrealistic and unattainable for poor children and their families in developing countries. Because of their poverty and the lack of social policy directed to their needs, many children do not receive the attention they need and do not complete primary school.

Still, it is important to remember, as Annew and Milne noted, that "many poor families in the cities do not send their children out to work, many destitute girls do not become prostitutes, and there are people who would rather die than steal, even when they are starving".

Meaningful education and skills training programmes, therefore, as well as protective regulations, should be based on an understanding of the social life within families, neighbourhoods, and cultures of Third World cities, rather than on ideals from other societies.

Rather than continuing to work with inappropriate models, or waiting for further research, policy makers can learn the needs of children and families from them directly, through close contact and dialogue, as the Undugu Society did in Kenya.

A great majority of urban children want to learn marketable skills and often work long hours to earn money for school fees. They frequently fail to fulfill their intentions, however, because of the more urgent pressure to help their families survive. Often, education policy and laws in developing countries aimed at protecting children fail to address the real-life situations children face in struggling for survival.

On the basis of the problems it identified, the Undugu Society established special schools for street children, initially called "schools for life" or non-formal schools. These schools, after an initial period of experimentation, have now been approved by the Kenyan Government. Their curriculum is shorter than the normal one and the subjects are relevant to the daily lives of the pupils. The methodology in teaching, usually reserved for adults, helps the learners discover knowledge for themselves. So far, Undugu schools have never experienced a shortage of learners.

A new approach to urban problems

In planning and carrying out a global strategy for children in the 1990s, governments must not fail to tailor their policies and institutions to meet the different needs of both urban and rural children. As a first step, commonly held anachronistic views about urban poverty must be shed.

For many years, officials and experts viewed Third World urban growth as cancerous, catastrophic, explosive, and critical— something to be resisted and reversed. This led to attempts to control city growth by bulldozing squatter settlements, expelling unemployed newcomers, and prohibiting changes in residence, among other measures. Governments withheld services from slum dwellers—including health care, drinking water, sanitation, and primary schools—lest the extension of basic facilities legitimize the squatters' land tenure.

According to Yue-man Yeung, "...many governments in Asia have adopted the twin policy measure of squatter eradication and low-cost public housing schemes in their vain attempt to come to terms with the housing problem. The most eloquent expression of the failure of the former is the fiasco of relocating squatters from the Intramuros and Tondo in Manila to Sapang Palay, some 40 km away, in 1963. The project was a complete failure, for lack of employment opportunities and basic services in the relocated area, and squatters quickly drifted back to the city. The irony of the episode is that...the vacated land in the Intramuros is still not built upon as new construction would have to meet certain Spanish architectural style. It was a case of the planner's zeal to maintain standards being pushed to extremes. In spite of reduced building standards adopted and special financial arrangement, public housing schemes are still beyond the reach of most low-income households."

Even when official policy shifted from preventing to accommodating urban growth, the prevailing attitude to poor families was benign neglect.

One problem in assessing the needs of urban children is that virtually all available information is in the form of urban versus rural averages. Often there is no indication of the proportion of a city's population living below standards, and, since urban populations include nearly all the country's wealthy, averages tend to be higher for urban areas. Squatter settlements are not shown on many city maps, and records refer to unplanned areas and unwanted citizens in such negative terms as "illegal," "unemployed," "unregistered," "illiterate," "unskilled", and "un-organized."

Stigmatized by the rest of urban society, uprooted, and under permanent threat of eviction, often persecuted for engaging in begging, peddling, and other informal work, and with no skills to compete for better jobs, a large majority of the urban poor do not join the existing organizations through which they could advocate for change. Yet despite their scarce resources, poor people in Third World cities have survived in a hostile environment, through self-help, political alignments, and their own persistence. A major challenge for policy makers in the 1990s, therefore, is to follow the lead of the urban poor themselves and support the actions initiated within slum communities.

Spotlight on Cities, a recent WHO publication, has called for global efforts to:

- Raise awareness of the scale, nature, urgency, and "near desperation" of the predicament of the poor in many cities of the world;
- Shift urban health care strategies from simply trying to provide more hospitals and curative services to putting PHC principles into practice.

The basis for change

The Global Strategy for Shelter in the Year 2000 adopted by the U.N. General Assembly in December 1989 has drawn the attention of governments towards a hitherto underutilized resource: the knowledge, skills, and man- and woman-power of those directly concerned, the inhabitants of the communities themselves.

Extending basic services, on a scale that would cover most settlements of the urban poor in developing countries, is possible. As Lee-Smith and Syagga's analysis of problems in African cities shows, a new mix of infrastructure services must be looked at when the habitat of the urban poor is planned. In many instances, these should include woodfuel supply and land for food production.

The same authors emphasize that the public sector can't provide shelter when per capita expenditures for urban services are declining and low-income populations in urban areas are growing rapidly. It is feasible, however, to provide access to land, cheap services, technical assistance, and credit facilities. To do this, the public sector needs to decentralize management schemes, assure occupancy rights to slum dwellers, facilitate informal sector businesses, and develop outreach extension services to community-based organizations, either directly or in collaboration with non-governmental organizations (NGOs).

Low-cost technologies to upgrade living conditions and basic services in poor areas exist:

- A study by the World Bank has identified ways of collecting and treating urban sewage at one tenth to one twentieth the price of conventional systems. UNICEF-assisted water and sanitation projects have had extensive experience with such low-cost technologies that are installed and maintained by the communities served.
- In many cities, the cost of solid waste collection is reduced through community-based collection and offset to a large extent through the sale of recycled materials.
- The capital expenditure required to extend piped water to shanty towns and other unplanned communities is recovered through fees paid by the inhabitants. Residents of neighbourhoods unserved by city water supplies generally buy water from vendors, often paying 20 times or more the fees paid by their richer neighbours for piped water.
- PHC and non-formal basic education, through organized community participation and trained community members, substantially reduce costs of government-provided health and education services.

Child-centred urban programmes based on a convergence of services, cost-effectiveness, and community involvement can make it possible to reach the goals for children in the 1990s. Such programmes need vigorous endorsement by governments, supported by aid agencies and loans from financial institutions.

Further reading

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"Access by the Urban Poor to Basic Infrastructure Services—Africa Region," by Diana Lee-Smith and Paul Syagga. "Access by the Urban Poor to Basic Infrastructure Services—Asia Region," by Yue-man Yeung. These background papers were prepared for the Infrastructure and Urban Development Division of the Economic Development Institute of the World Bank. 1989.

URBAN POPULATION

	% living in urban areas*	Average annual growth rate (%)	
	1988	1965-80	1980-87
LATIN AMERICA & CARIBBEAN	**59**	**3.6**	**3.6**
Argentina	86	2.2	1.8
Bolivia	50	2.9	4.3
Brazil	75	4.5	3.6
Chile	85	2.6	2.3
Colombia	69	3.5	3.1
Costa Rica	52	3.7	4.4
Cuba	74	2.7	1.5
Dominican Rep.	59	5.3	4.2
Ecuador	55	5.1	4.8
El Salvador	44	3.5	2.0
Guatemala	41	3.6	3.7
Guyana	34		3.1
Haiti	29	4.0	4.0
Honduras	42	5.5	5.5
Jamaica	51	3.4	2.6
Mexico	72	4.5	3.3
Nicaragua	59	4.6	4.5
Panama	54	3.4	3.0
Paraguay	46	3.2	4.5
Peru	69	4.1	3.5
Trinidad & Tobago	67	5.0	3.6
Uruguay	85	0.7	0.9
Venezuela	89	4.5	3.7
MIDDLE EAST & NORTH AFRICA	**54**	**5.3**	**4.5**
Algeria	44	3.8	3.9
Egypt	48	2.9	3.6
Iran, Islamic Rep.	54	5.5	5.0
Iraq	73	5.3	4.8
Jordan	67	5.3	5.1
Kuwait	95	8.2	4.9
Lebanon	83	4.6	1.9
Libyan Arab Jamahiriya	68	9.7	6.5
Morocco	47	4.2	4.3
Oman	10	8.1	8.0
Saudi Arabia	76	8.5	5.8
Syria	51	4.5	4.4
Tunisia	54	4.2	2.9
Turkey	47	4.3	3.3
United Arab Emirates	77	18.9	4.3
Yemen	23	10.7	8.1
Yemen, Dem.	42	3.2	4.5
AFRICA SOUTH OF THE SAHARA	**31**	**6.4**	**6.0**
Angola	27	6.4	5.7
Benin	40	10.2	7.3
Botswana	22	15.4	8.2
Burkina Faso	9	3.4	5.1
Burundi	7	1.8	8.9
Cameroon	47	8.1	6.5
Central African Rep.	45	4.8	4.4
Chad	31	9.2	7.4
Congo	41	3.5	3.9
Côte d'Ivoire	45	8.7	6.6
Ethiopia	12	6.6	4.0
Gabon	44	4.2	6.4
Ghana	33	3.4	4.2
Guinea	24	6.6	5.5
Kenya	22	9.0	8.2
Lesotho	19	14.6	7.0
Liberia	43	6.2	5.7
Madagascar	24	5.7	6.1
Malawi	14	7.8	7.7
Mali	19	4.9	3.9
Mauritania	39	12.4	7.4
Mauritius	42	4.0	1.3
Mozambique	24	11.8	10.2
Namibia	55		5.6
Niger	18	6.9	7.0
Nigeria	34	4.8	6.1

URBAN POPULATION

	% living in urban areas*	Average annual growth rate (%)	
	1988	1965-80	1980-87
AFRICA SOUTH OF THE SAHARA (continued)			
Rwanda	7	6.3	7.9
Senegal	38	4.1	3.6
Sierra Leone	31	4.3	5.2
Somalia	35	6.1	5.9
South Africa	58	2.6	3.3
Sudan	22	5.1	4.1
Tanzania	30	8.7	11.2
Togo	24	7.2	6.3
Uganda	10	4.1	5.2
Zaire	39	7.2	4.6
Zambia	54	7.1	6.7
Zimbabwe	27	7.5	5.5
ASIA	**23**	**4.4**	**3.9**
Afghanistan	21	6.0	3.2
Bangladesh	13	8.0	5.5
Bhutan	5	3.7	5.1
China	21	2.6	1.7
Hong Kong	93	2.3	1.7
India	27	3.6	4.0
Indonesia	27	4.7	4.5
Kampuchea	11	1.9	3.8
Korea, Dem.	66	4.6	3.7
Korea, Rep.	69	5.7	3.9
Laos	18	4.8	5.7
Malaysia	41	4.5	4.5
Mongolia	51	4.5	2.9
Myanmar	24	2.8	2.3
Nepal	9	5.1	7.2
Pakistan	31	4.3	5.0
Papua New Guinea	15	8.4	4.6
Philippines	41	4.0	3.9
Singapore	100	1.6	1.1
Sri Lanka	21	2.3	1.4
Thailand	22	4.6	4.6
Viet Nam	21	4.1	3.5
INDUSTRIAL COUNTRIES	**74**	**1.8**	**1.0**
Albania	35	3.4	2.5
Australia	85	0.2	1.3
Austria	57	0.1	0.5
Belgium	97	0.5	0.3
Bulgaria	69	2.8	1.4
Canada	76	1.5	1.2
Czechoslovakia	67	1.9	1.2
Denmark	86	1.1	0.3
Finland	66	2.5	1.8
France	74	2.7	0.5
Germany, Dem.	78	0.1	0.2
Germany, Fed.	86	0.8	0.1
Greece	62	2.5	1.3
Hungary	59	1.8	1.1
Ireland	58	2.2	1.5
Israel	91	3.5	2.0
Italy	68	1.0	0.5
Japan	77	2.1	0.7
Netherlands	88	1.5	0.4
New Zealand	84	1.5	0.9
Norway	74	5.0	0.9
Poland	62	1.8	1.7
Portugal	32	2.0	1.8
Romania	50	3.4	0.9
Spain	77	2.4	1.3
Sweden	84	1.0	0.2
Switzerland	59	1.2	0.8
United Kingdom	92	0.5	0.3
USSR	67	2.2	1.5
USA	74	1.2	1.0
Yugoslavia	49	3.0	2.4

Source: The State of the World's Children 1990, Table 5.
(For explanations and qualifications to specific figures, see notes there.)
* Percentage of population living in urban areas as defined according to the national definition used in the most recent population census.
Figures for country groupings are median values.

PART EIGHT:

The economic base

The cost of achieving the goals for children

In brief

The cost of reaching the survival and development goals for children by the year 2000 cannot be calculated precisely, but they are not exorbitant. Clearly additional resources are called for, probably of the magnitude of $20 billion per year over the course of the decade. The major portion of this must be generated by the developing countries themselves, but perhaps $4 billion to $6 billion per year will have to come from external aid. Revitalizing growth in developing countries and debt relief are important conditions for the former, while a restructuring of current aid patterns can go along way towards providing the latter. The resource mobilization that has taken place to achieve Universal Child Immunization (UCI) is an example of what can be done.

There is no doubt that additional resources are needed to reach the survival, protection, and development goals for children spelled out in other chapters of this Sourcebook. From a global perspective, however, the quantity of resources needed can only be estimated and expressed in rough orders of magnitude. Studies to estimate the cost of reaching development goals are under way at various institutions: at UNDP in relation to human development, at the World Bank concerning poverty reduction, at UNESCO and UNICEF concerning education, and at the Child Survival Task Force concerning health goals. Within a year or two, when the results of all these studies are known, firmer estimates on the cost of reaching the goals for children will be possible.

Global estimates will, however, continue to have their limitations because there are so many different country circumstances and approaches to reach the goals. Health, nutrition, education, and water and sanitation programmes in different countries may reach the same broad objectives with considerable variation in cost. Costs vary because conditions in each country are so different, because wage levels vary widely, and because different techniques or different approaches may be used as, for example, in the use of shallow wells and hand-pumps rather than deep tube wells to provide rural water supply. Costs can also vary through increased efficiency as, in the case of education programmes, through increasing class size where appropriate or reducing the number of dropouts, or as a result of well-executed integrated programmes which combine health, nutrition, and education interventions.

Nevertheless, it is important to have even rough estimates of the total cost of meeting the proposed goals for the 1990s in order to judge the feasibility of such a grand design for children.

Cost of primary health care interventions

The various figures provided in the chapters on health in this Sourcebook, when added together as though they were separate, vertical interventions, come close to $4 billion a year. In concrete circumstances, these are not and should not be separate programmes, but are rather part of a comprehensive primary health care (PHC) approach in which infrastructure costs are more or less common to several programmes and there are synergistic effects such as, for example, the effect of measles immunization on reducing deaths due to both diarrhoea and pneumonia. Also, in some cases, the figures discussed represent total costs for reaching the goal, including what is already being done by the health system.

A recent study prepared by Abt Associates for the Task Force for Child Survival has calculated the additional costs of achieving the goals elaborated in the Task Force's Talloires Declaration of 1988 (and subsequently modified in the 1990 Affirmation of Bangkok). These correspond roughly to the health goals discussed here. Abt Associates' tally of their cost estimates for each separate goal comes to a total for the decade of $33.4 billion, which if divided evenly over the ten years would be $3.4 billion per year. In an attempt to allow for the synergistic effect of the interventions when applied in a comprehensive package, Abt also applied a model which further reduced the decade cost estimate to $18 billion, or an average of $1.8 billion per year. The model is somewhat idealistic because those interventions which reduce mortality rates at the lowest cost are applied first and it assumes that "least cost" techniques are available to all countries alike. It provides, however, a rough estimate of the cost of attaining the health goals at some point between $1.8 billion and $3.4 billion per year.

These estimates are additional to the estimated $15 billion to $20 billion cost of continuing what parents, governments, and donor agencies in developing countries already provide by way of children's health care. The conclusions of these cost estimates is that a doubling of total national expenditures should bring the health goals for the decade well within the realm of possibility. Most of these resources will have to be generated within the countries themselves, but some part, perhaps a quarter to a third, will need to be provided from external sources, especially for low-income and Least Developed Countries.

Education costs

As indicated in the chapter entitled "Basic Education: An Overview," a study prepared for UNICEF and UNESCO by Colclough and Lewin as background documentation for the Jomtien World Conference on Education for All estimated that to provide primary schooling for all children educational expenditures over the decade in the 72 low- and middle-income developing countries will need to be roughly doubled by adding to the current budgets an amount in the order of $5 billion per year or $50 billion over the decade. Most of these additional resources will have to be generated in the countries themselves, although in some countries, especially in sub-Saharan Africa, external resources need to be increased considerably to reach education for all. These additional resources for developing countries have been estimated at $800 million to $1.5 billion per year.

Water and sainitation costs

The chapter on Water and Sanitation indicates that total coverage by the year 2000 may cost as much as $35 billion per year during the 1990s. However, 80 per cent of the currently unserved population, mostly the rural poor and those living in urban shanty towns, could be reached by focusing only on the low-cost (and some intermediate) technologies at a cost of roughly $10 billion annually. No doubt investment in other intermediate and high-cost technologies will also need to be made during the decade, but for purposes of estimating the resources necessary for meeting basic human needs and reducing deaths and illnesses from water borne and fecally transmitted diseases, this figure of $10 billion is a more realistic financial target. Again, the external component of this might be estimated at $2 billion to $3 billion. (External support to this sector during the 1980s is now estimated at roughly $3 billion per year, though much of this was for high cost systems.)

Nutrition costs

Estimates of costs for programmes to eliminate severe and moderate malnutrition are difficult to give for the reasons that malnutrition is often the consequence of adverse social and economic conditions of the household and of the region where the household lives. Poverty reduction together with changed social and economic conditions may be the best nutrition programme in many instances. However, it has been shown that effective nutritional education and health programmes, together with effective monitoring, can reduce malnutrition considerably even in the absence of rapid social and economic progress. Extrapolating on the basis of costs of some successful nutrition programmes, this Sourcebook has indicated that the amount of $2 billion to $3 billion a year might serve as a rough estimate for overall costs of reaching this goal.

In addition, elimination of iodine deficiency disorders has been estimated to cost $80 million per year, elimination of vitamin A deficiency $20 million, and the reduction of iron deficiency anaemia an annual $25 million.

If the various global cost estimates are taken together, the following picture of the annual costs required emerges:

Additional annual costs to reach the decade goals for children
(US$billions – 1990 prices)

	Total	External component
Health goals	1.8 - 3.4	0.6 - 0.9
Education goals	5.0 - 6.0	0.8 - 1.5
Water & sanitation goals	8.0 -10.0	2.0 - 3.0
Nutrition goals	2.0 - 3.0	0.4 - 0.7
Total:	16.8 -22.4	3.8 - 6.1

One may say, then, with a whole series of caveats, that the attainment of the goals for children in the 1990s will require an additional annual investment in the order of magnitude of $20 billion and an external support of $4 to 6 billion. How is this to be provided?

What modest amounts can do

The experience of immunization expansion in the 1980s shows the catalytic power of relatively modest additions of external support when combined with local efforts and resources. A rough estimate is that total expenditure on immunization has reached about $600 million per year in all developing countries. Of this, roughly $100 million has been provided by international and bilateral agancies, primarily for support of vaccines, cold-chain equipment and other components requiring foreign exchange. In some countries, primarily in Least Developed Countries of sub-Saharan Africa and elsewhere, more general support for expansion has been provided. Thus support per child immunized has varied widely, from about 20 cents in China to $1 in India to $2-$3 in sub-Saharan Africa.

All this has been provided to fit in with national programmes and needs and adapted to specific context of each country. But it has encouraged and made possible the dramatic expansion of immunization throughout the developing world, from an average coverage of 10-20 per cent in 1980 to over 70 per cent today. And the estimated result is that 2 million fewer children under 5 years of age are dying each year from vaccine preventible diseases.

The international challenge

A substantial part of the cost of meeting the proposed goals for children in developing countries will have to be met by the countries themselves, as is the case with the existing expenditures on education, health, water and sanitation, and nutrition. The international community can, however, greatly contribute to financing the costs of the goals in two ways.

First and most importantly, by providing developing countries with a favourable policy environment, with opportunities and with support to develop themselves quickly and to grow rapidly. Financing programmes to meet the goals for children in a fast growing economy is much easier to accomplish than in a stagnating economy. The most rapid progress in human development in general has, for example, been made in fast growing countries like South Korea and Thailand. However, growth alone is not sufficient. As UNDP's Human Development Report 1990 has recently shown, some countries with rather high growth rates and high levels of per capita income have been doing much worse, while some countries with a low growth rate managed, with appropriate investments, to keep up a respectable profile of human development.

Financing programmes to meet the goals for children in a fast growing economy is much easier to accomplish than in a stagnating economy.

A second way for the international community to support the goals for child survival and development is to provide more concessionary resources specifically for such programmes. This does not necessarily imply a major increase in aid resources. Because, at present, only a small fraction of aid, bilateral or multilateral, goes to basic health and education, much can be achieved by a restructuring within aid allocations.

Making growth possible

For the developing countries as a whole, even allowing for new loans, negative resource transfers arising from interest payments and amortization of debt amounted to some $52 billion annually in both 1988 and 1989. Some countries managed to offset this debt-induced haemorrhage of resources with infusions of private capital and Official Development Assidtance (ODA) grants to augment the new loans. Still, total aggregate net transfers remained negative with some $10 billion leaving developing world economies in 1988 and 1989, compared to a net inflow of $60 billion to $80 billion during the early 1980s.

While most developing countries have tried to protect their outlay on human resource development from the budgetary inroads made by their growing debt repayment obligations, some social goals have had to be sacrificed. Many countries have struggled to keep human resource expenditures constant as a percentage of non-debt expenditure. Unfortunately, per capita expenditure on human goals has dropped considerably as the share of non-debt expenditure itself diminished and as government income languished in the wake of the economic recession, failing to grow and keep pace with population growth.

Debt relief can take into account the need to manoeuvre and expand expenditures targeted for human development goals, especially in Africa and the poorer Latin American countries. Specific measures and approaches to facilitate this are outlined in the following chapter on Debt Relief.

If half of the additional 2 per cent real annual increase in development assistance anticipated over the course of the 1990s were allocated to health, education, and water and sanitation, the amount going to these sectors would nearly double over the course of the decade.

Debt relief in itself will not be a pancea for all ills. On the contrary, reducing the debt service without other changes internationally and nationally would perhaps provide some temporary relief but not sustainable progress.

Countries must also be able to continue to earn their needed foreign resources on the international markets, from which they are often barred through trade-restrictive measures and through unequal competition in the form of heavily subsidised markets and products (as in the case of farm subsidies by virtually all industrialized countries).

Restructuring aid allocations in the 1990s

Present perspectives on the growth of aid in the 1990s among countries belonging to the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) are for an increase of about 2 per cent per year in real terms or perhaps 25 per cent over the whole decade. Although larger increases should obviously not be ruled out, they certainly cannot be counted on.

Thus an increase in aid to basic services for children must come primarily from restructuring within aid. Although such restructuring is never painless, two facts make it possible to increase very considerably the new resources for basic education, PHC, water and sanitation and nutrition. One is that the *share* of aid going to the social sectors fell by 25 percent from 1979 to 1988. The second is that the share of health sector aid going to PHC and nutrition, the share of education aid going to basic education, and the share of water and sanitation aid going to low-cost water and sanitation is relatively small, as the following table indicates:

Bilateral Flows of Oficial Development Assistance (ODA)
(Average for 1986/87)

Health and population as % of total ODA	5
Primary health as % of all health*	27
Education as % of total ODA	11
Primary education as % of all education*	7
Water, sanitation and other amenities as % of total ODA	6
Rural water supply & sanitation as % of all water/sanitation*	19

Source: OECD/DAC 1989

* Figures based on detailed sector reporting from OECD Credit Reporting System Data Base which covers bilateral technical assistance only partially.

It appears from these figures that PHC, primary education and rural water and sanitation, together constitute about 3percent of all bilateral ODA, which is slightly more than the amount by which such aid has been forecast to increase in real terms over the coming decade.

Some calculations may illustrate the importance of aid restructuring in relation to the additional external resources ($4 billion to $6 billion) needed to support the goals as identified in the first part of this chapter.

- If aid to the social sectors were restored to the proportions they enjoyed in 1979, this would lead to an increase of about 25 percent in resources to these sectors.
- If, say, half of the approximately 2 per cent real annual increase in development assistance anticipated over the course of the 1990s were allocated to health, education, and water and sanitation, the amount going to these sectors would nearly double over the course of the decade.
- If donors and recipients were agreeable to a modest restructuring of aid within each sector, it would be possible to double the proportion of aid going to PHC, basic education, and low cost water and sanitation in about two years, simply by devoting the predicted 2 per cent annual increase in ODA to these activities.

Willingness by developing countries to accept and a commitment by as many donor governments as possible to explore and implement such a restructuring of aid over the 1990s, with 1992-93 as the target date for having the new structure in place, would go a long way to assuring the external resources needed to achieve the goals for children in the 1990s. Such a commitment by individual donors would provide an appropriate parallel to the restructuring of national resources required of developing countries to achieve the goals. And it should be emphasized that individual donors can commit themselves to such restructuring without waiting for the consensus of all.

Clearly, then, cost is not the major obstacle to achieving the proposed goals for children in the 1990s. Political decisions and political commitment on a global scale to remove some of the barriers to growth in developing countries and some significant but reasonable shifts in allocations of both national resources and international aid are required. What better occasion than that of the World Summit for Children for such commitments to occur?

Two subjects related to the cost of achieving the goals for children in the 1990s deserve further elaboration: debt relief and the "peace dividend". These are discussed in the following and concluding chapters.

Further reading

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Debt relief and child survival

In brief

Developing countries will need to mobilize additional resources if they are to speed up the implementation of the child survival and development revolution (CSDR) in the coming decade. This comes at a time when the developing countries' burden of debt servicing, relative to Gross Domestic Product (GDP), is running at up to four times the amount of GDP being devoted to health expenditures and about double the percentage of GDP currently being invested in education.

Third World export earnings are heavily mortgaged to debt service payments. There is an absence of new private loans in most debt-distressed countries, and aid levels are stagnating. The resultant economic squeeze has made it difficult to impossible for even the most well-meaning governments to safeguard, much less expand, their social programmes for children. For many debt-distressed developing economies, especially those of sub-Saharan Africa and Latin America, the inevitable consequences are a decline in the value of their most precious resource, the nation's human capital, and a time lock on future growth.

If today's children are not to inherit this unwelcome burden, debt relief has to be seen not as an end in itself but as a socially acceptable instrument linked to ongoing efforts to foster human and social development for children and adults alike. UNICEF and the Inter-American Development Bank have already proposed a scheme to allow debt reduction to finance increased social spending.

Generally speaking, credit in itself is a positive aspect of development finance. However, in an international context, debt becomes a problem, when it can no longer be serviced or when the servicing of the debt puts such a large claim on domestic and foreign resources that future growth is hampered. That is today's dilemma. The debt problem can only be resolved by a co-ordinated international approach in which debtor countries, banks

Debt service and expenditure on education and health as a percentage of GDP (1987)

	Debt Service	Education Expenditure	Health Expenditure
Low- and middle-income developing countries	4.5%	2.5%	1.1%
Highly indebted developing countries	4.3%	1.9%	1.2%

Source: World Bank. World Development Report 1989

and multilateral institutions, and creditor countries co-operate in a determined bid to break free of this vicious circle of debt servicing at the expense of debtor nations' prospects for future growth.

Most poor countries (especially African) are mainly indebted to "official creditors" (multilateral and bilateral donor agencies or governments), while the indebtedness of other countries stems largely from borrowings from private institutions. According to the International Monetary Fund (IMF), the percentage of all debts owed to official creditors in 1988 was 40 per cent. However, in sub-Saharan Africa the figure was 70 per cent whereas in the mostly Latin American " Highly Indebted Countries" it was "only" 28 per cent, though rising.

Both Latin America, with its largely private debt, and Africa, with a predominantly public debt, face high debt-servicing obligations that have resulted in negative resource transfers, a process that has to be reversed as a matter of priority in any solution to the debt crisis. To put it in perspective, resource transfers for the U.S.Marshall Plan of assistance to Western Europe after the Second World War totalled some 2 per cent of U.S. GNP for four years. Current transfers from the developing countries have been proportionately double that of the Marshall Plan, and have already been sustained eight years in the case of Latin America and six years in the case of Africa.

Debt reduction proposals

In October 1985, the then U.S.Treasury Secretary, James Baker, called for new private lending on a voluntary basis to help developing country economies grow while continuing to service their old debts. His appeal fell on deaf ears. Between 1985 and 1989, only a handful of voluntary loans were made to heavily indebted countries. Almost all lending was involuntary (i.e. rescheduling with accumulation of interest payment on old debts). Scarcely any new money was made available. As a consequence, negative resource transfers became even bigger relative to GNP (see table).

Total debt service as a percentage of GNP*

	1980	1982	1985	1988	1989
All Developing Countries	3.7	4.6	5.1	5.0	5.2
Latin America & Caribbean	5.5	6.8	6.1	5.4	5.5
Sub-Saharan Africa	2.4	3.1	5.1	5.3	7.0

Source: World Bank: 1989/90 Debt Tables

* *This figure provides the gross outflow which does not take into account flows of new loans or new investments.*

Various new debt-reduction proposals have since been made, calling for a decrease in the amount of actual debt; a decrease in the interest rate; a new or extended grace period (without accumulating interest during the grace period); or, a mix of all three. Of these, the two best known are the Toronto Proposal, a product of the Group of 7 meeting held there in June 1988, and the Brady Plan, named after the current U.S. Secretary of the Treasury, a proposal to stimulate private debt reduction, which in March 1989 replaced the Baker Plan.

The Toronto Proposal focuses on debt obligations to official bilateral sources by the low-income (mainly African) countries. It offers creditor countries the choice between a reduction of one third in the principal, a 50 per cent reduction in interest payment (or a 3.5 per cent reduction in the interest rate, whichever is lower), or stretching repayments over 25 years with a grace period of at least 14 years.

Problems of sub-Saharan Africa

Much of Africa's debt is owed to official creditors. It involves debt-servicing payments that, were it not for continuous rescheduling arrangements, would exceed export earnings. The frequent calls on debt rescheduling (mostly to the Paris Club of creditors) has meant that national administrations resort more and more to "crisis" management control at the expense of regular economic policy-making, with finance ministry priorities dominating national decision-making.

The negative outflow of resources continues to grow annually, while by the end of 1989, only 12 African countries, according to the World Bank, had rescheduled their debts with the Paris Club under the terms of the Toronto Proposal. It is hard to imagine that this was the intention of the world leaders of the Group of 7 when they announced their debt relief proposals in Toronto two years ago.

Various estimates have been made as to how much debt reduction is needed to finance a minimum level of imports and to stimulate economic growth and social progress in sub-Saharan Africa. In 1988, the Advisory Group on Financial Flows for Africa, an international banking group established by the United Nations Secretary General, reported a financing gap of at least $5 billion per annum for the coming years to offset the drop in external resources. The same year, UNCTAD's Trade and Development Report, setting a higher target, said that achieving a 3 per cent annual per capita income and consumption growth rate would require an annual inflow of $3 billion at the beginning of the decade, rising to $10 billion at the end.

> **The debt problem can only be resolved by a co-ordinated international approach in which debtor countries, banks and multilateral institutions, and creditor countries co-operate in a determined bid to break free of this vicious circle of debt servicing at the expense of debtor nations' prospects for future growth.**

In order to achieve a GDP growth rate of 4 to 5 per cent, according to the World Bank report ("Sub-Saharan Africa from Crisis to Sustainable Growth"), net official development assistance (ODA) would have to double from $11 billion in 1986 to $22 billion by the year 2000 (all at 1990 dollar values).

Whatever form is eventually chosen, debt relief measures should improve the net resource flow to sub-Saharan countries immediately. The decisions for such actions should be based upon economic and social analysis of the country. The decisions of the Paris Club should, therefore, be subordinated to decisions made at consultative group meetings and roundtables.

In this context, a solution must be found to reverse a situation that since 1985 has made the IMF a net receiver of funds from sub-Saharan Africa. This would imply different lending policies and intelligent solutions to the increasing problem of countries in arrears.

Key principles that could have a major bearing on shaping the solutions to the debt problems of sub-Saharan Africa include the following:

- All debt relief measures to be geared to immediate reduction of debt-service payments and a flow of new resources;
- Official and unofficial forms of discussion on debt relief such as the Paris Club, IMF drawings, bilateral assistance to be merged;

- Official debt discussions to be based on the capacity of the countries and their abilities to provide essential social services to their populations;
- Debt to multilateral organizations to be regarded as negotiable.

The situation in Latin America

The Brady Plan recognized the need to reduce the debt of middle-income debtor countries, most of which are in Latin America, as the main way to reduce large negative net resource transfers. Creditors and debtor governments are in agreement on this and, as a result of the Brady Plan, discussions between industrial and developing countries have become far more pragmatic.

The issues under review include how much debt reduction is required in different countries; whether existing mechanisms, in the context of the Brady Plan, are sufficient to achieve the required debt reduction quickly enough; how the Brady mechanisms can be further developed and improved; whether other measures should be taken to encourage the required debt reduction.

It is a given that required levels of debt and debt-service reduction need to be linked to the needs of individual debtor countries to command sufficient resources (both in domestic savings and foreign capital) to grow at a reasonable rate.

Latin America, with a 2 per cent population growth rate, would need to increase GDP by more than 2 per cent a year just to maintain living standards and, preferably, by more than 4 per cent if living standards were to improve. By contrast, Latin American GDP grew by an average of only 1.3 per cent a year during the 1980s, leading to a decline of 8 per cent in per capita product for the region, with its implied severe social cost for the region as a whole, and in particular for the most vulnerable groups.

Other elements include the need to provide sufficient incentive for debtor countries to continue their ongoing efforts towards pursuing macroeconomic stabilization and other desirable structural reforms despite difficult external and internal circumstances, including the increasing reluctance of commercial banks to provide any new money to highly indebted countries.

Estimates vary as to the level of debt reduction and debt-service reduction required to help restore sustainable growth in the highly indebted countries. According to the World Bank, a 30 per cent net reduction in debt service on medium-term and long-term bank debt across all such countries would be required to achieve 4.5 per cent growth in the coming years. UNCTAD has calculated that restored growth in the 15 highly indebted countries would require a minimum reduction of their debt to commercial banks equivalent to 36 per cent of their medium-term and long-term debt to such creditors. Other estimates suggest the need for higher debt and debt-service reduction. SELA (Sistema Economico Latinoamericano), for example, estimated in early 1990 that one of the conditions for Latin American and Caribbean countries to restore growth to their 1961-80 level would be, on average, a 75 per cent reduction of debt servicing to private creditors.

Conclusions

The Toronto and Brady initiatives are important in recognizing the urgent need for debt reduction, in both low-income and heavily indebted developing countries.

It is, however, necessary to ensure that levels of debt reduction and new funding should be consistent with minimum levels of growth. Higher levels of debt reduction than are likely to be forthcoming under the existing initiatives are urgently required. For sub-Saharan African countries, one valuable step would be for the three options (reduction of principal, reduction of interest payments, and stretching out of repayments), suggested in the framework of the Toronto agreement, to be simultaneously implemented by all bilateral official creditors, rather than having each creditor nation implement one of the options. Such a measure would significantly increase the relief for sub-Saharan nations.

In the case of the heavily indebted countries, particularly in Latin America, it is also clearly necessary to achieve far greater debt reduction than is likely to take place in the present context of the Brady Plan. Changes in regulatory and fiscal incentives of creditor nations are an important way to encourage commercial banks to accept debt reduction. In particular, for Europe and Canada, tax relief should continue to be given at the time of provisioning. But it should be maintained only if, within a limited time period (e.g.three years), the commercial bank accepted debt or debt-service reduction at least equivalent to the amount of provisioning being accepted for tax concessions.

Recently, the United Kingdom has begun to move towards the provision of some limited tax advantages for operations implying debt/debt service reduction. These tax changes, which affect the timing of tax relief on uncollectible debt, would encourage debt reduction, without implying additional costs to industrial countries' taxpayers.

Other regulatory changes should also be made. It is very encouraging, for example, that U.S. regulatory authorities have been flexible in accepting that discount bonds (as in the case of Mexico) do not imply an up-front loss for banks; similar regulatory treatment that would reduce, eliminate, or phase timing of losses for banks—particularly in the U.S.A.—could provide valuable regulatory incentive for debt/debt-service reduction.

In the case of heavily indebted countries where commercial creditors have been willing to reduce or forgive debt, it would seem logical for official (bilateral) creditors to follow their lead and reduce or forgive debt as well. Alternatively, that proportion of debt could be converted to local currency to be spent on projects in the environmental or social fields.

Keeping human development a central issue

The latter option would complement the UNICEF/Inter-American Development Bank initiative on Debt Relief for Social Investment in Latin America. When funded, this proposal would allow debt reduction to finance increased social spending, which has suffered so much in Latin America during the 1980s. Additional funds advanced by the industrial nations to the Latin American and Caribbean governments could be used by the recipients to buy back their own debts, with the debt being serviced in local currency for social or environmental spending in programmes to be monitored by the Inter-American Development Bank and UNICEF.

More generally, the various debt reduction proposals have some important implications. Any meaningful solution to the debt problem will result in more international management either by a new international financial organization or by increased activities of the IMF, the World Bank, and the Regional Development Banks, reducing the voluntary character of present proposals. This implies that the debt reduction and growth potentiality of any debtor country has to be judged against its economic and social infrastructure as well as against its investment pattern.

It is important, therefore, that the debate which started with Adjustment with a Human Face continue. With the likely increased involvement of the international financial agencies in debt reduction strategies, it is essential that the concern for human development, which is gradually gaining momentum, continue to be a central issue, especially when large amounts of debt reduction are negotiated.

The UNICEF initiative of Debt Relief for Child Survival (DRCS) has a special function in the debate on debt reduction and concern for human development. The primary focus of DRCS is to put the concern for human development at a central point in the development debate, by emphasizing the need for human development as an integral part of the development strategy.

One possibility of DRCS is especially relevant in Latin America: to generate additional resources through the use of local currency counterpart funds discussed earlier with reference to the Debt Relief for Social Investment scheme in Latin America. (Caution is necessary, however. Local currency counterpart funding of the debt swap should not result in overall additional government expenditure, since this would fuel inflation. Government expenditure can increase, of course, if taxes or external grants are increased).

In the African case, emphasis should continue to be placed on donations of privately owned debt, which has a very low market value, in exchange for a limited number of programmmes. However, when it is intended to capture a large part of the private debt market in Africa, it would make sense to set up a co-operative framework between the various organizations, creditor governments, and debtor countries, as discussed earlier. Such an orderly arrangement would avoid isolated attempts to "swap" fractions of the face value of donated debt into project finance of different organizations.

What is needed is a reasonable shift (and not an increase) in total government expenditure towards human investment. Governments in creditor countries could instruct their regulators and tax authorities to take a joint and co-operative stand regarding donations of African and other low-income country debt. Given the political interest for Africa, only in this way can a proposal for reduction of private debts stand a chance of success.

Further reading

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Children and the peace dividend

In brief

The thaw in international relations has opened up new possibilities for countries to do more for children — their own first of all — but also for industrial countries to help developing countries achieve the decade goals for children and for developing countries to devote less of their national budgets to armaments and more to meeting basic human needs.

In 1982, when cold war rhetoric and regional conflicts were heightening international tensions and world military expenditure was soaring, the UNICEF Executive Board issued an appeal to the special session of the General Assembly devoted to disarmament. Noting that "the waste of technical, financial, human and natural resources for armaments to the detriment of solving urgent social and economic problems, particularly of developing countries, appears intolerable against the background of hardships and suffering of children in most developing countries," the Board urged a reduction of expenditure on armaments so that "a portion of the savings can be channelled through national or multinational programmes towards meeting the minimum requirements of children everywhere – adequate nutrition, safe water, primary health care and suitable education."

Eight years later what then seemed a futile appeal now appears to have been prescient. The thaw in international tensions and the reduction in levels of conflict around the world has made a reduction in expenditure on armaments not only possible, but likely. In 1989 military expenditures in the USSR fell by an estimated 6 per cent, the equivalent of $20 billion, and the United States is also cutting its military budget, perhaps by as much as 10 per cent over the next four years. The growth in arms expenditure by developing countries also appears to be lessening. UNICEF's most recent Executive Board in April 1990 noted this remarkable change in world affairs and recalling its 1982 resolution, called upon all States of the international community, as they reduce military expenditure, to consider how they could channel part of the resources released to support actions to reach the goals set for children in the 1990s.

Competing claims

Around the world many claimants have already come forward for their share of the "peace dividend". The restructuring of national expenditure patterns away from military toward other uses is not a simple matter. Capital for creation of new industries or for retooling those formerly devoted to armaments, renewal of national infrastructure, greater attention to environmental concerns including the "cleanup" of earlier contamination and disposal of hazardous wastes, retraining and relocation of soldiers and workers from armaments industries to peaceful occupations, redressing domestic inequities neglected in times of defense priority, and many other domestic needs make it difficult to envisage a huge share of the peace dividend either being transferred from developed to developing countries or being redirected to all the needy social programmes within developing countries.

The amounts involved

Yet the amounts needed for meeting the basic needs of children over the coming decade are paltry compared to the sums heretofore devoted to military expenditures and now no longer required for them. The world spent an estimated one trillion dollars ($1,000 billion) on arms and armaments in 1989 with the military budgets of industrial nations accounting for over 80 per cent of this amount.

It is in developing countries, however, that the greatest acceleration in military expenditure has taken place over the past thirty years, as the following table indicates:

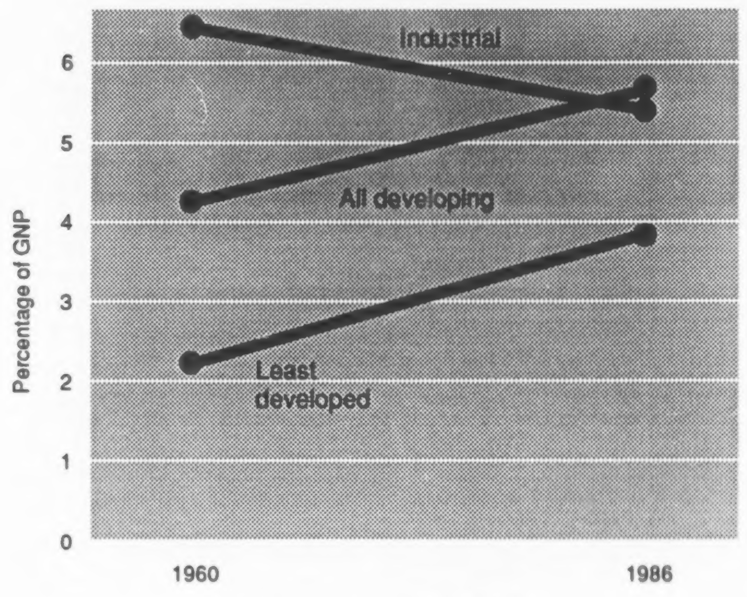
Military expenditure

	Billions of 1984 dollars		**Percentage of GNP**		**Annual percentage growth**
Region	1960	1986	1960	1986	1960-86
World	342	825	6.0	5.4	3.4
Industrial countries	321	666	6.3	5.4	2.9
Developing countries	24	159	4.2	5.5	7.5
Least Developed Countries	0.5	3.4	2.1	3.8	7.5

Source: UNDP, Human Development Report 1990

According to UNDP, over 25 developing countries spend more on the military than on education and health, sometimes more than twice as much, have several times more soldiers than teachers, and spend around 6 per cent or more of their GNP on defence. Arms imports by developing countries skyrocketed from $1.1 billion in 1960 to nearly $35 billion by 1987, or three-quarters of the global arms trade. Military debt is more than a third of the debt for many large developing countries. "Obviously," says the *Human Development Report 1990*, "the poverty of the people of the developing world has been no barrier to the affluence of their armies." (See graph)

Military expenditure



Source: UNDP: Human Development Report 1990

To the degree that the lessening of global tensions can be reflected in a lessening of regional and local tensions, a reduction in the almost $200 billion spent by developing country on armaments is also a possibility.

The beneficiaries of each country's peace dividend can and should be primarily the children of that country. Industrial countries, however, should also be able to provide some additional assistance for children in the developing world.

As indicated in previous chapters of this Sourcebook, it would cost something on the order of an additional $20 billion per year to meet the goals for children in the 1990s. Developing countries themselves could provide most of this if they could be relieved of the heavy burden of debt, reduce their military expenditures and resume adequate rates of economic growth, as already stated. Some additional external assistance will be necessary, however, especially for the Least Developed Countries.

There is no doubt that the resources could be made available if the political climate made it possible to release them. As the World Bank notes in its recently published 1990 *World Development Report*, a cut of only 10 per cent in military spending by the countries of the North Atlantic Treaty Organization would pay for a doubling of current aid, not only for children but for all sectors.

The amounts needed for meeting the basic needs of children over the coming decade are paltry compared to the sums heretofore devoted to military expenditure and now no longer required for them.

Be creative

There are other ways of using the peace dividend to benefit children, ones that need not be tagged as "foreign aid". Some of the $100 billion per year currently devoted to military research could be redirected to research benefitting children. Health research on subjects of benefit to children in both industrial and developing countries, such as the "children's vaccine" mentioned in the chapter on immunization, research to combat deaths due to pneumonia, malaria or tuberculosis, or a low cost vaccine against AIDS are some possible examples. Others would include research to improve food production and assure household food security without the use of environmentally harmful fertilizers and pesticides or research to make solar energy accessible to low-income families.

International agreements to develop portions of the earth that are part of mankind's common patrimony, such as the sea bed or Antartica, and devote the returns to improving the welfare of children throughout the planet would be another worthy use of funds liberated by reduced spending on armaments.

The opportunity now facing mankind is of a kind that arises at very few stages in history. Heads of State assembled at the World Summit for Children can create a new international climate, one that makes possible what seemed impossible only a few years ago.

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